THE SIGNS OF THE ZODIAC
IN THE ART OF THE NEAR AND MIDDLE EAST
UP TO AND INCLUDING THE EARLIER ISLAMIC PERIOD

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ABSTRACT

The scientific importance of the zodiac to the astronomers and astrologers of antiquity can be gauged from Babylonian cuneiform sources and Greek and Latin technical treatises. Less accessible is the history of the signs, and their meanings and allusions in extant works of art, as on these subjects the ancients themselves were ambivalent. This study, by an analysis of the iconographic evidence, seeks to uncover the origins of the twelve images that make up the zodiac cycle and to trace something of their subsequent history in the Graeco-Roman world and the Middle East, up to the earlier Islamic period.

On the pictorial evidence of the seals, boundary stones, and other works of art, the thesis will contend, despite a few dissenting voices, that priority in the recognition of the zodiac, and the development of its characteristic images belongs to Mesopotamian civilization. Several of the constellation figures had already been identified by the early second millennium B.C., and the remainder are attested before the beginning of the first millennium. The fully-formed zodiac was in use in Mesopotamia by c. 500 B.C. and was diffused from that area. Literary evidence establishes that the zodiacal constellations were known in the Greek world before the time of Alexander, though following his visit to Babylon the popularity of the topic was greatly enhanced. Thus, in the Hellenistic period the zodiac was adopted into the iconography of kingship, a role that it maintained in the courts of Imperial Rome.

An extensive investigation of the zodiac's assimilation into the religious iconography of the Roman empire is undertaken, especially in those cults where the deity was identified with a celestial body, or linked with the abstract concept of Time, for example, of Mithras, Sarapis, Artemis and Aion. The large number of extant zodiac monuments indicates its importance as an icon, while minor variations between one cycle and another suggest changing nuances of meaning in different contexts.

The zodiac's power over human destiny was a concept so well-entrenched in popular imagination that the rise of the great monotheistic religions, Judaeism, Christianity and Islam, may have changed its status but hardly diminished its prevalence. In Levantine synagogues, and even in the Qur'ān itself, the constellations and planets, though no longer deities in their own right, were still regarded as legitimate powers under God.

Sasanian imperial iconography also employed the zodiac, a fact which probably had an effect on the symbols of kingship in Islam, and influenced the choice of iconography of at least one Umayyad prince. The sustained link between the zodiac and royalty is one important theme that has emerged from this study. A second is that the zodiac, though composed of twelve standard signs, could be varied in small ways to express religious or astrological doctrines, and that these variations can sometimes provide information about the monument or its background. Though little discussed by classical archaeologists, the zodiac has a more important part in Roman art than is generally admitted.

Over a very long period of time the zodiac proved to be a remarkably versatile symbol. Its imagery represented an important scientific innovation whose evolution in the Middle East is demonstrated by the iconographic evidence, here comprehensively assembled for the first time. Afterwards, the zodiac was universally accepted, both in European and Oriental civilizations.

DEDICATION

Art evolves from a pre-existing artistic vocabulary, just as science develops from an established matrix of scientific ideas. Changes assuredly occur, but usually gradual changes, the sudden brilliant flash of inspiration that will drastically change the course of art or science being rare, and often initially mistrusted. This thesis is dedicated to the idea of continuity, a celebration of the debt owed by any society to its predecessors.

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INTRODUCTION

Essentially, the zodiac is a cycle of twelve constellations, each designated by its own name and conventional image. Long before they were combined into a cycle, the various images had a meaning and history, and our first task will be to investigate their past. To do this, we shall turn to the arts of Mesopotamia, as the evidence of cuneiform texts has shown in recent decades that the astronomers of that region were the first to employ the zodiac as part of a system of astronomical measurement. A comprehensive investigation will establish the presence of all twelve constellation images in Mesopotamian art before the beginning of the first millennium B.C., thus demonstrating that the zodiac figures, like zodiacal mathematics, originated in Mesopotamia.

The twelve images were the symbols of divine constellations, each a religious icon in its own right. Binding them together in a fixed cycle produced the zodiac, and bestowed on them a new corporate identity that was no less a religious icon, but would acquire in the following centuries new connotations and implications.

From Mesopotamia knowledge of the zodiac was passed on to other parts of the ancient world. It has been assumed previously that the spread of Greek culture following the conquests of Alexander was the agency by which this happened. Our study of the iconography, however, will indicate that the diffusion probably took place in the Achaemenid period; and that there was not one line of transmission, but three: one from Mesopotamia to Egypt; a second from Mesopotamia to the Greek cities; and a third from Mesopotamia to Syria, Palestine and other parts of the Near East. This order of listing does not imply a priority in time. Possibly all three lines were in operation simultaneously, but at present there is too little

information on which to base a judgement. In each case we shall see that the result was a zodiac whose iconographic tradition varied in minor points from region to region, but whose variant details are all to be found in Mesopotamian prototypes. A continual exchange of astrological ideas throughout antiquity blurred the sharpness of the respective traditions, but did not destroy them. Thus, even after the second century A.D. Sagittarius was still portrayed with the wings and scorpion's tail of Babylonian origin in Egyptian zodiacs, and Aquarius as a bucket or well of currently unexplained inspiration in the zodiacs of the Near East. Such variants probably represent geographic or cultic differences within ancient Mesopotamia, but available evidence does not yet fully settle this question.

A very few zodiacs have survived from the Hellenistic period, and one or two are mentioned in literary sources, but Roman examples are numerous. The evidence suggests a steadily increasing interest in astrology and the zodiac from c. 100 B.C. onwards. This trend was reflected in the arts. The zodiac was portrayed on star-maps, celestial globes and astrological planispheres, and functioned as a sacred symbol on religious monuments and in the iconography of kingship. Similar themes can already be discerned in the Hellenistic period.

Less attention has been given to Roman zodiac monuments than is merited by their numbers and intrinsic interest, partly perhaps, because their Mesopotamian background was unfamiliar to classical scholars. Individual monuments have been studied, but it is often assumed that the zodiac itself is a commonplace symbol, varying little from one example to another. Our study, however, will introduce a previously unknown facet of zodiac iconography: its exceptional richness and flexibility as a symbol. Beyond any symbolic meaning with which the zodiac as a whole was endowed, we shall see that segments of the cycle, and even individual signs, carried their own connotations. By orienting the cycle so that the desired signs were placed in the most conspicuous position, or were in some way

emphasized or shown in isolation, subtle changes in the meaning of the symbolism could be achieved. For instance, the signs Aries and Taurus signified the idea of spring, with its attendant allusions to new life and growth. These signs were associated with the deity Aion, thought to control and perpetually renew the cosmic cycles, which in turn governed the seasons on earth. Other signs, or segments of the cycle, referred to other deities, or to ideas such as birth, death, judgement, or the ascent of the soul.

Birth and death, inescapable and fundamental in the life cycle of every human being, will often occupy our attention, for the zodiac was a symbol of the celestial spheres from which the soul was thought to have descended, and to which it would one day return. We shall find the zodiac in temples, in tombs and on sarcophagi, as well as in the iconography of deities such as Mithras, Sarapis, Artemis, and Aion among others. We shall consider the rôle of zodiac iconography in the cult of each in turn. For Mithras, we shall also draw attention to a relationship between his iconography and images from ancient Mesopotamia, and to a previously unnoticed text dealing with his cult in the Roman empire. The text dates to the middle of the second century A.D., a period in which the cult was expanding.

Other textual evidence will enable us to recognize and describe the use of a whole class of objects whose purpose was formerly a matter of speculation. These are the astrological planispheres. The text is from a well-known composition, the Alexander Romance of Pseudo-Callisthenes, which was translated into several languages during antiquity, each version with minor differences. The best description of the planispheres is found in the Syriac version, undoubtedly the reason why it has not been noticed by scholars dealing with the monuments of classical antiquity.

A debate of long standing on which our research has been able to shed new light concerns the choice made by the Roman emperor Augustus to adopt Capricorn as an emblem. The sign appears on his coinage, as the insignia of his legions, and graces Augustan cameos, yet the emperor was born in

late September, under the sign Libra. We shall introduce new elements into the debate, suggesting an answer that is simple, though perhaps somewhat unexpected.

The zodiac monuments to be studied in the following pages range in date over a period of a thousand years, from c.300 B.C. to the decade or so following A.D. 700. Geographically, they are from a variety of sites in both east and west. The long span of time will allow us to observe the continuity of the symbol, or to check for evolutionary changes, while the geographical distribution will highlight regional differences. The considerable number of monuments involved will compel us to limit the descriptions to essentials, but will facilitate grouping and classifying. This broad approach should produce insights into the nature of the material as a whole. We shall observe the prestige of the zodiac from its use in the imperial palace, and in the sanctuaries of important deities. We shall see its versatility as a symbol, and become aware of some unexpected links between religion and astrology. The special relationship between the zodiac and a deity thought to govern the great universal cycles will be explored, and finally, with the whole body of material in mind, we shall reconstruct the meaning of zodiac symbolism. While this broad overview will be our principal aim, there will still be opportunity to examine specific issues, and we shall suggest new identifications for certain works of art, contribute information towards the understanding of others, and suggest a theory concerning a group of symbols on Palmyrene tesserae.

The study will be based on the visual evidence of the monuments, coupled whenever possible with textual sources. Astrological doctrines will be mentioned frequently, and to avoid confusion astrological terms such as Exaltation, House, Ascendant, and so on, will be distinguished with a capital. Throughout the study quotations will be in English, but for the interested reader they will be listed in the original tongue in Appendix B.

I am not a linguist, and have no personal competence in the range of languages from which my texts are drawn, other than an elementary knowledge of Arabic. I have relied, therefore, on published translations, and when necessary, sought the advice of those with the appropriate expertise. Difficult astrological terms used in the text have been defined in Appendix A. Finally, our catalogue of zodiac monuments will provide further details and a bibliography for each of the monuments discussed.

By the period of the Roman empire, from which the bulk of our monuments date, the zodiac had spread far from its native Mesopotamia to become a universally recognized symbol from India to Britain. Even at that time it was the product of a vanished civilization, and had acquired an aura of venerable antiquity, of a mystery half-known, inherited from ancient sacred wisdom. Some remnants of this aura cling to it even now, and we may affirm the remarkable, and long lasting, success of the zodiac as a symbol.

PART I

THE MESOPOTAMIAN ORIGINS

Chapter one. THE ZODIAC IN MESOPOTAMIAN ASTRONOMY AND RELIGION

INTRODUCTION: THE CONSTELLATIONS IN MESOPOTAMIA

The significance of the twelve zodiacal constellations is due to their position on the ecliptic, that is, on the path taken annually by the sun, moon, and planets. They were among the many constellations that had been distinguished and named in ancient Mesopotamia, where an interest in the night sky extended back over a long period of time. The early history of the constellations is understandably obscure, though the process of differentiating and naming the star-groups had evidently begun by the third millennium B.C., as star lists from the time of Sargon of Agade (c.2,334-2,279 B.C.) are still extant.[1] Indeed, a few seals from even earlier periods carry stars and other symbols that may refer to constellations.

The familiar visual images associated with the zodiac even today also originated in Mesopotamia. These may have undergone a prior independent development, though in most cases the earliest surviving examples suggest that they were already associated with a constellation. We shall see that some of the more distinctive, such as the goat-fish and the flowing vase, achieved definitive form in the Akkadian period, while others such as the scorpion, lion and bull, were widely used symbols, and perhaps equated with constellations, many centuries before.

Of particular consequence to our study is the fact that the stars and planets were regarded as divinities, and the question of when this first happened is of some interest. Even in the Akkadian period constellations such as the goat-fish belonged to the realm of the gods, and by the Old Babylonian period (first half of the second millennium B.C.) a hymn to Ištar identified her as the planet Venus.[2] This bright luminary was

1 D.J.Wiseman, "Astrology" in Baker's Dictionary of Christian Ethics (ed. C.F.H.Henry). For a discussion of lists of this nature, see A.L.Oppenheim, Ancient Mesopotamia, revised ed. (1977), 244-248.

2 S.Langdon, "A hymn to Ištar as the planet Venus and to Idan-Dagan as Tammuz", JRAS, 1923, 31.

apparently the first of the planets to be recognized, and seems from extant sources to have been the first studied. The religion of Babylonia is considered primarily in terms of its anthropomorphic deities, their mythology, rituals, temples and sacrifices, in which setting names such as Anu, Enlil, Ea, Marduk, Nabu, Ištar, Nergal, Šamaš and Sin[3] are prominent. Many of these, as we shall see, had astral associations. Our survey will show that the stars were petitioned during many important religious ceremonies, that sacrifices and prayers were dedicated to them, and that they were honoured in the highest levels of Babylonian society.

In the following pages we shall examine the place of the constellations in the Babylonian milieu. Most of the evidence will be drawn from texts and monuments of the first millennium B.C., so it must be assumed that the picture which emerges relates primarily to that period. Some of the material, however, although copied in the first millennium, comes from much older texts, so our observations relating to the first millennium may hold good in some essentials for earlier times as well.

A. THE ZODIAC AND ASTRONOMY

THE NATURE AND ORIGIN OF THE ZODIAC

By the middle of the first millennium B.C. the priest-astronomers of Babylon had evolved the fully developed zodiac. It was conceived as an imaginary band in the heavens, twelve degrees wide, through the middle of which ran the ecliptic, the orbit of the sun. It was divided into twelve equal segments of thirty degrees of arc, each known by the name of the constellation that lay within it. The sun travels through each of the twelve constellations in turn, spending one month in each; the planets and the moon follow the same route, but travel at different speeds, the moon

3 For the hierarchical order of Babylonian deities c.800 B.C., see J.Brinkman, under "Kudurru" in Reallexikon der Assyriologie und Vorderasiatischen Archäologie, 1981.

hurrying through the whole zodiac in one month. The zodiac's twelve degrees of width allowed for the small deviation of the moon from the sun's path, calculated by the Babylonians as plus or minus six degrees. The twelve segments of thirty degrees provided a useful set of co-ordinates for measuring the progress of the sun, moon, and planets through the seasonal year, even though the sun and the constellations could not be seen at the same time. The system was anchored to the solstices and equinoxes, which were set initially at the mid-point of their respective signs: the spring equinox at 15° Aries, the summer solstice at 15° Cancer, the autumn equinox at 15° Libra, and the winter solstice at 15° Capricorn. In later Babylonian astronomy this position was changed to the tenth degree of the respective signs, and later again to the eighth degree. We shall see that Greek astronomers were finally to fix the solstices and equinoxes at the first degree of their signs (below, p. 142). The names and order of the twelve signs are given in Appendix A.1.

By the early Achaemenid period the zodiac represented the latest development in scientific theory, providing a versatile means of accurate celestial measurement. In its fully evolved form it is a sophisticated concept that modern scholars agree must have been complete by c.500 B.C.[4] The earliest known attestation of its final form comes from two cuneiform texts, BM36599 and BM36737 + BM47912, of the Achaemenid period, published by Sachs and Aaboe, [5] which deal with predicted lunar eclipses in the years 475-457 B.C. One of the tablets is dated by colophon to 5 December, 475 B.C. Babylonian astronomical texts of the Seleucid period used set methods of noting the zodiacal signs in lists of data or calculations. In the text of 475 B.C. the data was presented in columns, one headed by the Babylonian

4 O.Neugebauer, HAMA II, 1975, 593.

5 A.Aaboe, A.Sachs, "Two lunar texts of the Achaemenid period", Centaurus, XIV, 1969, 18.

term for "zodiacal sign", using the notation familiar from scores of later texts, suggesting that it was already well established.

THE PERIOD OF DEVELOPMENT

The creation of the zodiac in the mid-first millennium B.C. implies that Babylonian astronomy had undergone a long period of prior development, yet to be traced in detail. Many of the constellation names are of Sumerian origin, suggesting an interest in the heavens at least as ancient. The earliest evidence of planetary observations comes from the middle of the second millennium B.C. During the reign of King Ammiṣaduqa (c.1646-1626 B.C.), the penultimate king of the first dynasty of Babylon, observations of Venus were recorded over a period of twenty-two years. They survive as "Tablet 63" in a group of seventy omen texts, known as Enūma Anu Enlil. The Venus tablet [6] deals with omens based mainly on the first and last visibilities of Venus as morning and evening star. That Venus was already recognized as both morning and evening star suggests that earlier observations had been made. The text contains the earliest known attempt to describe a planet's movements mathematically.

Early star-lists show that the practical and mythological aspects of astronomy were interwoven. According to the Babylonian Epic of Creation, when Marduk created the heavens out of half of the split body of Tiamat, he appointed three stars to rise each month as time-keepers. Their established rising times were useful points of reference, as the Babylonians used a lunar calendar, which does not correspond to the solar year. Dependence on a lunar cycle results in a "wandering year", where an annual festival in time travels through all the seasons, an effect seen in the yearly variation of the Islamic fast of Ramadan. The Babylonians regulated their calendar by checking the lunar months against the rising and setting of thirty-six fixed stars which rose three per month throughout the year. When the lunar month

6 E.Reiner, D.Pingree, Enūma Anu Enlil, tablet 63. The Venus tablet of Ammiṣaduqa, 1975, Passim.

failed to correspond acceptably to the rising of these stars, an additional month was added to the year to make up the difference (below, p. 29).

Lists of the thirty-six time-keeper stars compiled before the beginning of the first millennium are extant. These lists have been dubbed "astrolabes" [7] though they bear no relationship to the instruments of that name used in later centuries by the astronomers of Islam. The Babylonian "astrolabes" had two characteristics which are of interest to this study: first, they contain the names of the zodiacal constellations; and secondly, the earliest appear to have had a circular format, divided into twelve segments with radiating lines. This form has been deduced from theoretical considerations and from a later fragmentary example from the library of Assurbanipal in Nineveh. [8] The segments, numbered clockwise, signified one month each. The whole was further subdivided into three concentric rings (APPENDIX A .15), containing in turn, the stars of Enlil (inner ring), then the stars of Anu, and the stars of Ea in the outer ring. The circular format graphically presents the cyclic nature of the phenomena, and is reminiscent of the zodiac planispheres of Graeco-Roman art, to be considered in Ch. 14.

The division of the stars into three groups recurs in other star-lists. It was thought earlier that the Babylonians divided the sky parallel to the celestial equator into three great bands, containing respectively from north to south, the stars of the Way of Enlil, the Way of Anu, and the Way of Ea. Recently, however, Pingree and Reiner [9] have suggested that these divisions applied only to the eastern horizon, where the stars would be observed to rise heliacally. Whichever interpretation is preferred, these bands will be of interest in connection with a temple refurbished by Sennacherib, to be discussed presently (p. 49).

Evidence from the ^{mul} APIN texts demonstrates that the concepts necessary for the formulation of the zodiac were already understood before 700 B.C.

7 B.L.van der Waerden, "Babylonian astronomyII, the thirty-six star names" JNES VIII, 1949, 10.

8 Idem, Science Awakening II, 1974, 62.

9 E.Reiner, EAE, tablets 50-51, 1981, 17.

These texts are a series of three tablets, a compendium of the astronomical knowledge of their day, known from several copies, principally BM86378 for tablet one, [10] and VAT9412 for tablet two.[11] The oldest copy, from Aššur, has been dated to 687 B.C., indicating that the composition is somewhat older. According to Reiner, [12] the astronomical data fits best the period around 1,000 B.C. at the latitude of Nineveh (c.36°N). The series is known by the opening words, "^{mul}APIN...", "the Plough star...", as modern Assyriologists have adopted the practice of the ancient scribes in referring to a tablet by its opening words (incipit). The term mul is the Sumerian equivalent of the Akkadian term kakkabu, meaning "star". These are logograms employed as determinatives before star names, and we shall encounter both frequently in the pages to follow.

The ^{mul}APIN texts dealt with a range of astronomical phenomena. They described how to determine the dates of solstices and equinoxes by using gnomon shadows. There was data concerning fixed stars and planets, instructions on regulating the calendar, and a list of constellations on the ecliptic. The latter, however, numbered eighteen, not twelve. The zodiacal constellations were all mentioned, but a group of stars within Taurus, the Pleiades, was listed separately, and three other constellations that lie near the ecliptic, Orion (^{mul}SIPA.ZI.AN.NA. "the true Shepherd of Heaven"), Perseus (^{mul}SU.GI, "the Old Man"), and Auriga (^{mul}GÀM. "the Crook"), were also included. In addition, Pisces was divided into three segments, to make the constellations ^{mul}KUN.MEŠ, ^{mul}SIM.MAḪ (the Swallow) and ^{mul}Anunitum.

The increased number of constellations may have represented moon stations, as that luminary was under discussion. The list does demonstrate that the concept of a belt of constellations marking the seasonal path of the sun,

10 E.F.Weidner, Handbuch der babylonischen Astronomie, 1915, 35-51.

11 Idem, "Ein babylonisches Kompendium der Himmelskunde", AJSL, 1924, 186-208.

12 E.Reiner, EAE, tablets 50-51, 6.

moon, and planets was understood. To complete the zodiac it remained only to fix the constellations at twelve, making each equivalent to one month, and to add the system of degrees. Both concepts were already familiar. The "astrolabes" were compiled as lists of twelve groups of stars, each associated with a month, and methods of dividing a circle into units of arc, or degrees, are attested from the second millennium B.C., or earlier.

Four methods of dividing the circle were used in Babylonia, [13] but only two need concern us, one a variant of the other. The basic unit was the bēru, one double-hour, or in astronomical terms, the angular distance travelled by a star in that time. A complementary definition of bēru is that it equals one-twelfth of a circle, i.e., one zodiacal sign equals one bēru. From Old Babylonian times, the circle was divided into twelve bēru, then further subdivided as follows:

the full circle = 12 bēru; 1 bēru = 30 uš.

An uš, therefore, was equivalent to 1° in modern terms, dividing the circle into 360°. Babylonian mathematics, developed extensively in the Old Babylonian period, used a small circle as a symbol for the number 360. The uš was further subdivided into 60 parts, corresponding to our minutes of arc, and each of these were subdivided into 60 parts, equal to our seconds of arc. This system is still in use in the twelve zodiacal signs of thirty degrees each.

A variant of the system is of interest because it was adopted by classical astronomers and passed into modern astronomy. The circle was divided into twelve bēru, then subdivided into cubits and fingers, thus:

1 bēru = 12 cubits; 1 cubit = 24 fingers.

The Babylonian "finger" (Akkadian ubānu) became the Greek δάκτυλος and the modern "digit". It has remained the standard measurement for expressing the magnitude of a lunar eclipse, being equivalent to one-twelfth of the moon's diameter.

13 J.K.Fotheringham, "Babylonian measures and the daktulos (δακτυλος)" The Observatory, XLII, 1919, 46-51

The bēru also came to be used as a measure of length, meaning the distance travelled in a march of one double-hour, but its application as a unit of time reckoning seems to have been the original usage.

Prior to the creation of the zodiac, the progress of the moon and planets was recorded in relation to thirty-one marker stars (sometimes called "Normal stars")[14] scattered around the ecliptic. The position of the moon or planet was related to the marker-star by distances measured in cubits and fingers. It was stated to be "in front of" or "behind" the marker star by so many cubits or fingers. "In front of" signified that it was to the west of the marker, in the direction of daily rotation. The texts using this system refer to the twelve zodiacal constellations, but the marker stars were used instead of degrees.

It seems that the reign of Nabû-nāṣir (747-735 B.C.) opened a period of intensified interest in astronomy, whereafter astronomical texts survive in increasing numbers. Ptolemy, the Greek astronomer of the second century A.D., mentions (Almag. III, 7) that he had access to eclipse records going back to Nabû-nāṣir's reign, and Sachs [15] suggested that it may have been the period in which the so-called "astronomical diaries" were started. A number of these diaries are in the British Museum. The oldest for which a date can be established comes from the year 652 B.C. (BM32312). Others can be placed in the sixth, fifth and fourth centuries, with many more in the Seleucid period. The diaries record observations, whereas the great majority of the astronomical texts deal with the computed positions of the celestial bodies. Each diary covers a period of six or seven months. They record details of lunar and planetary phenomena, wind velocities and directions, eclipses, changes of river level (measured in cubits and fingers), even commodity prices.

14 A.Sachs, "A late Babylonian star catalog", JCS VI, 1952, 146-150.

15 Idem, "Babylonian observational astronomy", in The place of astronomy in the ancient world, (ed. F.R.Hodson), 1974, 35-50.

The diaries were a source of data for computing lunar and planetary ephemerides. A major goal of Babylonian astronomy was to predict phenomena such as the new moon, an eclipse, appearances and disappearances of the planets, as well as their stationary points,retrogradations, and so forth.[16] This was done mathematically, giving a higher degree of accuracy than could be obtained by observations using the primitive aids available to astronomers throughout antiquity.

Lunarphenomena received special emphasis. The moon governed the Babylonian calendar and was an important source of omens, especially at times of eclipse. Prayers to astral deities on these occasions suggest that the Babylonians considered themselves vulnerable to attack by demons or witchcraft during eclipses. [17] Furthermore, certain eclipses could portend danger to the whole nation by being ominous to the king. At such times counter measures might even include appointing a substitute king, who would reign for one hundred days to take the portended evil on himself, and thus save the person of the real monarch.[18] By the seventh century B.C. the observation of astral omens had become the most important method of prediction, surpassing and partially replacing other forms of divination. A dependence on astral omens would lend impetus to the development of astronomy. The Babylonians recognized that planetary movements are cyclic, and therefore predictable, and could be described mathematically. If dangerous periods of planetary movement could be detected in advance, remedies could be sought through rituals and ceremonies. Conversely, if favourable moments could be predicted, one would know in advance the best time to undertake important projects.

Reports of observed phenomena were dispatched to the Assyrian kings

16 A.Aaboe, "Observation and theory in Babylonian astronomy", Centaurus XXIV, 1980, 14-35.

17 L.W.King, Babylonian magic and sorcery 1896, Section VI, 53-62.

18 H.Frankfort, Kingship and the gods, 1948, 262-265.

Esarhaddon (681-669 B.C.) and Assurbanipal (669-626 B.C.) from a network of observation posts throughout the realm. [19] There are extant reports from Babylon, Borsippa, Cutha, Uruk, Dilbat and Aššur. Some of these mention predicted eclipses, as the Saros cycle [20] had already been recognized. The texts note whether the eclipse was sighted, as heavy cloud could prevent it, or the eclipse may not have been visible from the latitude of the observer.

The accuracy of mathematical astronomy needed a more precise set of co-ordinates than the marker stars, and the zodiac calibrated with degrees was the scientific answer. The marker stars continued to be useful as aids to observation, and it seems probable that star-maps were a part of this well-organized system, though evidence is scarce. The names of the thirty-one marker stars have been recorded from cuneiform lists [21] but these must have been supplemented by maps giving the locations. Of itself, a list is insufficient for finding a star, and although the locations were doubtless studied and learnt by heart, a map must have been a useful teaching aid, and valuable as a source of quick reference. We shall see (p. 59) that small sketches showing two or more constellations in relation to each other are known on clay tablets, so presumably astronomers were using larger, more comprehensive maps, perhaps drawn on perishable materials.

THE CALENDAR

The zodiac was an efficient tool for checking solar and lunar correlations. The nineteen-years cycle of intercalations, the "Metonic cycle", was introduced in Babylon in 490 B.C., [22] though intercalation on an irregular basis had been used for many centuries previously. The correct regulation of the calendar was considered vital for the well-being of the nation.

19 A.L.Oppenheim, "Divination and celestial observation", Centaurus, XIV, 1969, 97-135.

20 O.Neugebauer, HAMA II, 542.

21 A.Sachs, "A late Babylonian star catalog", JCS, VI, 1952, 146-150.

22 O.Neugebauer, HAMA, 622.

Enūma Anu Enlil omens, which continued to be studied even into the Seleucid period, provide numerous warnings of the dangers of allowing the moon months to get out of step with the sidereal year. The example below is based on the heliacal rising of the Pleiades, which should occur in the second month of the Babylonian calendar. The omens begin by naming the month under consideration (month II) and then the star or constellation (the Bristle = the Seven Gods = the Pleiades). It notes a good prognosis if the stars rise in the correct month and appends an alternative to show what will happen if the calendar is out of step and the stars rise at the wrong time.[23]

> "In month II, the Bristle, the Seven Gods (the Great Gods);
> if it rises heliacally at its specified time: the great gods will assemble and give good council to the land, good winds will blow;
> if it rises heliacally not at its specified time: (the great gods will assemble and) will give bad council to the land, evil winds will blow, there will be grief for the people."

These dangers could be averted by the simple expedient of proper intercalations. An intercalary month was always added in one of two places: either as a second month of Addaru, prior to the spring equinox in the month Nisanu, or as an additional Ulūlu, before the autumn equinox in the month Taš̌rītu. Apparently the year was considered to have natural breaks at those two points. Intercalation was the business of experts. A Babylonian diviner's manual from the first half of the first millennium B.C., after lengthy technical instructions, concluded with an admonition, rendered in Oppenheim's translation: [24]

> "Establish the length of the year and complete its intercalations.
> Pay attention and be not careless!"

* * *

By the end of the sixth century B.C. Babylonian astronomers could be credited with a list of notable achievements. They had evolved mathematical formulae to describe the motions of the sun, moon and planets; developed a method of predicting eclipses; gathered a great deal of data that was

23 E.Reiner, EAE, tablets 50-51, IX, 13, p.59.

24 L.Oppenheim, "A Babylonian diviner's manual", JNES XXXIII, 1974, 197-220.

significant in regulating the calendar; and created the zodiac. Scientific astronomy was a product of the first millennium, dependent, as Neugebauer[25] has shown, on the mathematical achievements of the previous millennium. We shall see in the following pages that the "mythic" aspects of astronomy, such as distinguishing and naming the constellations, had a much longer history.

B. THE STARS AND BABYLONIAN RELIGION

Evidence that an astral cult may have existed in Mesopotamia has been known since the first astrological texts were published in the late nineteenth century, but of recent years the trend has been to play down any suggestion of an astral element in the religion.[26] Nevertheless, a considerable body of textual and visual evidence alludes to the stars, witnessing that they did have a place in the religion, and one of no mean status. A key position was held by the planets, who wandered among the fixed stars, but always followed the same path through the zodiac.

THE PLANETS

The planet wanderers were referred to collectively as the "wild sheep",[27] poetically typifying their errant movements. Their journey through the zodiac provided the basis for a large body of omens, and in later centuries, for the astrology of birth horoscopes that began in Achaemenid Babylon and was to become so important in the Graeco-Roman period. We shall demonstrate that each planet was clearly distinguished and associated with a specific deity of the Babylonian pantheon: Jupiter with Marduk; Venus with Ištar; Mercury with Nabû; Saturn with Ningirsu; and Mars with Nergal. The evidence

25 O.Neugebauer, HAMA II, 541.

26 See, for example, the comments of Oppenheim in Ancient Mesopotamia, 308.

27 E.Reiner, EAE tablets 50-51, 15, see catalogue entry under UDU.IDIM.

cited is chiefly from tablets 50-51 of Enūma Anu Enlil, and we shall use the planetary order always observed in late cuneiform astronomical texts, i.e. Jupiter, Venus, Mercury, Saturn, Mars. The order seems to relate to a perceived religious hierarchy, rather than to any astronomical criteria. A different ordering was used in Greek astronomy.

JUPITER Enūma Anu Enlil texts refer unequivocally to Jupiter as "the star of Marduk", [28] though some other texts use more oblique titles such as "the Heroic".[29] Astrologically, it was a source of mainly favourable omens.

VENUS Hymns to Ištar identify her as the planet Venus from as early as the Old Babylonian period, calling her "Bright Queen of Heaven" [30] a name reminiscent of her later Arabic name, al-Zuhara (الزهرة) the Radiant, or Bright One. In later texts of a religious character she retained the same name, but in astronomical texts she was usually called Dilbat, the Announcer, presumably because as morning and evening star she heralded the dawn and nightfall. She was known as the sister of Šamaš, the sun god, perhaps because she attended his rising and setting, and as the daughter of Sin, the moon god. It has been suggested that the latter may have stemmed from an ancient observation of the phases of Venus,[31] Apart from the moon, only Venus is close enough to the earth for the phases possibly to be seen. The planet was considered sexually variable. An Enūma Anu Enlil omen states:

"Venus is seen in the west, she is male",

and as part of the following omen:

"Venus is seen in the east, she is female." [32]

28 Reiner, EAE tablets 50-51, 10, catalogue entry ^{d}AMAR.UD.

29 Ibid., 15, see UD.AL.TAR.

30 Langdon, "A hymn to Ištar as the planet Venus, and to Idin-Dagan as Tammuz", JRAS 1923, 31.

31 J.Offord, "The deity of the crescent Venus in ancient Western Asia", JRAS 1915, I, 197.

32 Reiner, op. cit., 47. The Greek astronomer Ptolemy noted a similar doctrine for all the stars, except that the directions were transposed. Stars in the western half of the sky were regarded as female, and those in the eastern half were male. (Tetrabib. I, 6).

Venus omens related mostly to love, fertility and war.

MERCURY was associated with Nabu, [33] In astronomical texts it is usually called GU_4.UD., the Jumping,[34] a reference to its erratic movements which made it difficult to observe or characterize mathematically, and explains why it took a minor place in Babylonian astronomy before the seventh century B.C.[35] a time when Nabu's status was also increasing.[36]

SATURN According to Enūma Anu Enlil texts, Saturn was the star of Ningirsu.[37] It was called the Constant,[38] possibly because of its steady white light and relatively uniform movement, and also the Star of Law and Order,[39] a title that will have some significance in a later part of our study. It was considered the representative of the sun in the night sky, even to the belief that the other planets took their light from Saturn.[40]

MARS was equated with Nergal.[41] It was called evil,[42] hostile, rebellious[43] and sometimes simply the Stranger.[44] Predictions based on Mars relate mostly to war and destruction.

Planetary omens reflect the same phenomena that were observed and calculated in the astronomy texts; that is, the times and positions of a planet's rising and setting; the stationary points; the position in the

33 Gössmann,"Planetarium Babylonicum", in SL IV/2,1950, no.290, p.113.

34 Reiner, EAE tablets 50-51, 11, see GU_4.UD.

35 Pingree and Reiner, "Observational texts concerning the planet Mercury", Rev. d'Assyr. LXIX/2, 1975, 176.

36 J.Brinkman, under "Kudurru", in Reallexikon der Assyriologie, 1981.

37 Reiner, EAE tablets 50-51, 14, see ^{d}NIN.GÍR.SU.

38 Ibid., 14, see SAG.UŠ.

39 Fr. Thureau-Dangin, Rituels Accadiens, 138.

40 Jastrow, "Sun and Saturn", Rev. d'Assyr. VII/4, 1910, 170.

41 Reiner, EAE tablets 50-51, 15, see ^{d}U.GUR.

42 Ibid., 13, see ^{d}Lumnu.

43 Gössmann, "Planetarium Babylonicum", in SL IV/2, no. 360, p. 180.

44 Reiner, EAE tablets 50-51, 13, see Nakaru.

zodiac of a planet's retrograde motion; conjunctions between two or more planets, between a planet and a bright star, or between a planet and the moon. Any of these might be read as omens and it was therefore necessary to be able to predict them. The same concerns will be found again in Greek and Roman astrology, applied by then to the birth horoscopes of individuals, rather than to the more generalized predictions for the king or nation current in the earlier period. The moon and sun, Sin and Šamaš, also provided a rich variety of omens, especially during an eclipse.

The astrological doctrine of planetary Exaltations, usually thought to derive from a Greek source, is attested on a cuneiform tablet in the British Museum (55466 + 55486 + 55627) [45] from around the time of Nebuchadnezzar II (604 - 562 B.C.). The text locates the Exaltations just as they were shown later on Hellenistic star-maps and horoscopes, but does not mention that the planets were depressed in the opposite signs (Appendix A2). Something of this is implied, however, as the planetary Exaltations were arranged in opposing pairs. This doctrine will be of considerable importance in our study of the Graeco-Roman material.

Evidence that the planets were associated with the deities Marduk, Ištar, Ningirsu, Nabu and Nergal is quite explicit, but it is less clear whether the planets were regarded as visible manifestations of the deities, or as their particular agents. The text of the Vassal Treaties of Esarhaddon illustrates the point. The treaty, drawn up on behalf of the king and signed by his vassal lords in 672 B.C. begins by calling the gods to witness. [46]

45 The text was published and transliterated by King, The seven tablets of creation, I, 211-14; and II, 67-71.(1902). It was translated by Landsberger, "Ein astralmythologischer Kommentar aus der Spätzeit babylonischer Gelehrsamkeit", AfO I, 1923, 43-48.
For further discussion of the Exaltations in cuneiform texts, see S.Langdon, The Babylonian epic of creation, 1923, 149 ff.

46 D.Wiseman, The vassal treaties of Esarhaddon, 1958, 30.

"In the presence of Jupiter, Venus,
Saturn, Mercury,
Mars, Sirius,
In the presence of Ashur, Anu, Enlil, Ea,
Sin, Shamas, Adad, Marduk,
Nabu, Nusku, Urash, Nergal,
Ninlil, Sherua, Belit-ilani,
Ishtar of Nineveh, Ishtar of Erbil,
the gods dwelling in (heaven and earth)
the gods of Assyria, (the gods of Sumer and Akkad)
the gods of the lands, all of them have affirmed,
have laid hold on, (and) made (this treaty)."

The planets and deities are listed separately, and Ištar, invoked as Venus, is called on twice more as "Ishtar of Nineveh" and "Ishtar of Erbil", and could be included again in the all-embracing last four lines. The Ištars of Nineveh and Erbil - or her temple statues in those cities - were probably regarded as being, like the planet, single concrete manifestations of one great deity, each of which for safety's sake should be addressed separately.

The deities whose names and personalities were associated with the planetary bodies in Babylon exerted a lasting influence on astrology. Undeniably, the deities changed as the zodiac spread through the Graeco-Roman world, yet invariably they were replaced by others with similar functions or personalities. Mars or Hercules was substituted for Nergal, Venus for Ištar, and so on, with later deities absorbing some of the attributes of their predecessors. The aggregate, enriched by the syncretic tendencies of late pagan antiquity, was to provide a rich and complex inheritance for medieval astrology.

RITUALS, PRAYERS AND INCANTATIONS

The planets were the recipients of cult rites of their own, addressed to them in their planetary names, and quite separate from the rituals performed for the gods with whom they were associated. A tablet setting out the prescribed rituals for a temple in Uruk states:[47]

"You shall present water (for washing) hands to the planets Jupiter, Venus, Mercury, Saturn, Mars, and the sun and moon as soon as they appear".

47 Fr. Thureau-Dangin, Rituels Accadiens, 1921, 122.

In another text: [48]

> "Every day throughout the year, ten fat clean rams whose horns and hoofs are whole shall be sacrificed in the ... to the deities Anu and Antu of heaven, and to the planets Jupiter, Venus, Mercury, Saturn and Mars".

Uruk, the city in which these texts were found, was a centre of astronomy from which many astronomical and astrological texts have been preserved (below, p. 108).

Prayers and rituals were also addressed to the constellations and fixed stars. A collection of texts from the British Museum, published by King in 1896, included prayers to astral deities. Two tablets, K8808 and K8116,[49] invoked the Pleiades, a group of stars within the constellation Taurus. In cuneiform texts they are MUL.MUL, "the Stars", or sometimes the Seven Gods, and were depicted on seals and boundary stones as seven dots or seven stars (below, p. 59). Another tablet (DT65) has part of a prayer to the constellation KAK.SI.DI [50] more recently transliterated KAK.SI.SÁ ;[51] the Arrow, an object which we shall see among the god-symbols on several boundary stones. At the end of one text the catch-line for the next tablet identifies the constellation: "Thou, O KAK.SI.DI art Ninib, the prince of the great gods !" [52]

From the same series, three tablets, K2801 + K9490, K8190 and K6395 + K10138, were addressed to ^{mul}SIPA.ZI.AN.NA , the True Shepherd of Heaven, our constellation Orion, identified in the ^{mul}APIN texts as Papsukkal.[53] The first of the three tablets invokes ^{mul}SIPA.ZI.AN.NA in the name of King Aššurbanipal (668-627 B.C.) on the occasion of an eclipse. Clearly the astral deities were not merely part of a sub-strata cult, but prestigious

48 Ibid., 85.

49 L.W.King, Babylonian magic and sorcery, 1896, 111-112.

50 Ibid., 113.

51 E.Reiner, EAE Tablets 50-51, 1981, 12, see KAK.SI.SÁ.

52 King, op. cit., 116. Ninib is the old reading of Ninurta.

53 Obv. II, 2.

enough to receive the prayers of a monarch. Further examples of a royal interest in the constellations will appear below. King noted that astral deities were addressed in terms as exalted as those used in prayers to the great gods, and that ^{mul}SIPA.ZI.AN.NA (Orion) was even credited with "naming" mankind, that is, with bringing mankind into being, for in Babylonian thought, a thing un-named was without existence.

Even a constellation depicting an inanimate object might receive prayers. A text from Sultantepe (STT73) invokes ^{mul}MAR.GÍD.DA, the constellation of the Waggon, on modern star-maps Ursa Major, the Great Bear. The prayer begins "Divine Waggon, heavenly Waggon, ..." and goes on later to say: [54]

> "Without your permission even a mortally ill man cannot die,
> and a well man cannot start on a journey".

This strange quote recalls a text about Dumuzi mentioned by Radau.[55] On his journey to the netherworld, Dumuzi is said to travel by means of a ship or waggon (CT XV, 18, 25-6). It seems that ^{mul}MAR.GÍD.DA must have been the patron of journeys, even the final journey to the netherworld. A distant memory of the constellation's funerary significance must have remained among the Bedouin Arabs. Writing in the early eleventh century A.D., al-Biruni, well-versed in the scientific astronomy of his day, recorded details about some of the indigenous constellations of the desert dwellers. The constellation that we know as Ursa Major, he said, they call a bier. The quadrangle of four bright stars forms the bier itself, and the three smaller stars behind they call the banāt, the sons and daughters who morn.[56]

The memory of ^{mul}SIPA.ZI.AN.NA and ^{mul}KAK.SI.SÁ may also have survived the fall of Babylon. It is notable that the figure of Orion often appears on Sasanian glyptic [57] and the name of the Iranian deity Tir translates as "the Arrow" in Middle Persian. [58]

54 E.Reiner, "Fortune-telling in Mesopotamia", JNES XIX, 1960, 27.

55 H.Radau, Sumerian hymns and prayers to the god Dumuzi, 1913, 46.

56 Al-Biruni, Elements of the art of astrology, ed. R.Ramsay Wright, p.177.

57 A.D.H.Bivar, BM Cat., Western Asiatic seals. Stamp seals II: The Sasanian Dynasty, Pl. 5, BF 1-4, Pl.6, BF 5-13, BG 1-3.

58 I am indebted to Dr. A.D.H.Bivar for this information.

A class of texts known as the "Prayers to the Gods of the Night" are not addressed to specific astral deities, but to groups of constellations, or to the great multitude of stars. An example found at Boghazköy and now in the Louvre [59] dates to the Old Babylonian period (first half of the second millennium B.C.). It invokes a range of constellations in preparation for an extispicy to be performed on the following day. A later text from the library of Aššurbanipal and now in the British Museum (K2315 + K2325 + 83-1-18,469) [60] calls on the stars for aid against the attack of demons. The beginning of the text is lost, but the point where the reading becomes possible contains a list of names of constellations, including ^{mul}SIPA.ZI.AN.NA (Orion), ^{mul}PA.BIL.SAG (Sagittarius), ^{mul}UR.GU.LA (Leo), ^{mul}Zap-pu, (another name for the Pleiades) and ^{mul}MAŠ.TAB.BA (the Twins). Further down, however, all the stars are invoked:

"I have called you, stars in the north, the south, the east and the west -
the famous stars (as well as) the lesser stars that the eye cannot see,
the casual observer cannot observe,
those of (the paths of) Anu, Enlil and Ea -
surround me all of you, gather around me !"

A neo-Babylonian text in the Louvre (MNB1848) [61] instructs that the prayer is to be spoken in the second double-hour of the night, presumably because the sky will be dark by then and even the faint stars should be visible. Such texts are often very poetic, describing scenes of majestic stillness:

"the countryside is quiet, the doors (of the houses) are barred, the gates (of the city) closed,
the bars are lowered, (the land) does not utter a sound -
only the gates of the wide heaven are open,
and the great gods of the night that keep watch are (present)". [62]

The stars are also invoked in certain groups of incantations. They are mentioned among other divinities in the Šurpu, [63] Maqlû, and

59 G.Dossin, "Prières aux 'Dieux de la Nuit'", Rev. d'Assyr. XXXII/4, 1935, 181.

60 L.Oppenheim, "A new prayer to the 'Gods of the Night'" Analecta Biblica, XII, 1959, 282-301.

61 P.Dhorme, "Tablette rituelle Neo-Babylonienne", Rev.d'Assyr.VIII, 1911, 41-63.

62 L.Oppenheim, op.cit., from British Museum, K3507.

63 E.Reiner, Šurpu, 1958, II, 182-184.

Lipšur texts,[64] all three groups of incantations designed to release and purify someone afflicted by demons. The words šurpu and maqlû both mean "burning", a reference to the ritual burning of small items as part of the ceremony. The lipšur litanies were named for the repetition of the word lipšur, "may he undo, absolve".

Offerings, as well as prayers were made to the constellations. The important secret ritual of "washing the mouth", used when a new god-statue was installed in the temple, prescribed offerings for a number of stars, including the zodiacal constellations Taurus, Virgo and Libra.[65] The stars, honoured with prayers, rituals, offerings and royal patronage, seem to have enjoyed a status similar to the temple statues.

THE RADIANCE OF THE GODS

Mesopotamian gods were thought to have a dazzling radiance, even to the extent of being clad in a garment of fire.[66] Presumably such a concept originated in the notion of the gods as stars. To a lesser degree, a Mesopotamian king was thought to share some of the divine radiance so long as his reign had the support of the gods. According to Oppenheim, the usual term for this glow was melammū, which he translates as "awe-inspiring luminosity".[67] Should the king lose divine support it would immediately be apparent in the loss of his radiance.

For the temple statues, special garments were made, perhaps in an attempt to create the divine nimbus. These garments were sewn with hundreds of small golden ornaments in the form of disks, stars, rosettes or even small golden lions. A text from the reign of Nebuchadnezzar II records some repairs commissioned for one of these garments:

64 E.Reiner, "Lipšur litanies", JNES XV, 1956, 129-149.

65 Hooke, Babylonian and Assyrian religion, 1953, 117-118.

66 L.Oppenheim, "Akkadian pul(u)h and melammu" JAOS LXIII, 1943, 31-34.

67 Idem, Ancient Mesopotamia, (rev.ed.) 1977, 98. See also CAD vol. 10, "M", pp. 9-12.

"18 3/4 shekels of gold (to wit) 61 golden stars (^{mul}guškin) which are damaged from the kusitu garment of the lady of Uruk are at the disposal of N and A, goldsmiths, for repair work on the golden stars". 68

Another text mentions 703 golden stars for the same goddess, and another that Nabû is to be clad in the nalbaš šamê, the "garment of the sky". Even for the temple statues, astral symbolism was evidently important.

THE CONSTELLATIONS AND MYTHOLOGY

A number of texts suggest that objects from the cultic myths were represented in the night sky. Enūma Eliš, the Babylonian poem glorifying Marduk, describes how that deity defeated Tiamat and then created first the sky and then the earth from her split body. The other gods, grateful to Marduk for saving their lives, praised his weapons and set his bow in the sky as the Bow Star (En. el. VI, 62-67b).[69] Another text, published by Heidel, states: [70]

"Who (brought forth) the serpent(-dragon) ?
The Sea (brought forth) the serpent(-dragon).
Enlil drew (a picture of the dragon) in the sky,
A stretch of fifty double-hours is his length and one double-hour his height;
Six cubits his mouth, twelve cubits (his)....,
Twelve cubits is the circumference of his ears".

The text probably refers to a constellation, as another tablet (BM55466 + 55468 + 55627) published by King,[71] discusses the creation legend and notes that constellations were assigned by Marduk to "keep in remembrance" the creation story. In that text Tiamat seems to be a constellation near the ecliptic, as it is said that the approach of Jupiter or the moon to Tiamat could portend a deluge on earth. The text goes on to say that should this happen certain prayers must be recited to avert disaster. The constellation we call Hydra, ^{mul}MUŠ in cuneiform texts, may be the Babylonian constellation Tiamat. The Greek "Hydra" is an appropriate

68 L.Oppenheim, "The golden garments of the gods", JNES VIII, 1949, 176.

69 The line numbers follow the numbering of Langdon's text, The Babylonian epic of creation, 1923. This will be used throughout.

70 A.Heidel, The Babylonian genesis, 1942, 120.

71 L.W.King, The seven tablets of creation, 1902, I, 209.

translation for the name of the dragon who came from the primeval sea, and the constellation runs close under the ecliptic in the vicinity of Leo, where it would be possible for the moon or Jupiter to "approach" it. We shall see below (Chs 3 and 13) that for many centuries Hydra maintained an association with the zodiac in Graeco-Egyptian art, where borrowed details of Mesopotamian stella iconography were conserved.

Another astrological explanatory text (BM32574) [72] mentions Zu and other mythological creatures, suggesting that more legends were depicted among the stars. To the Babylonians, the night sky was visible testimony of the presence of their gods and a reminder of their great mythic acts of creation or destruction. We shall see in the following pages that the pictures the Babylonians saw in the constellations were frequently portrayed in the arts.

72 L.W.King, The seven tablets of creation, 218.

Chapter two. THE CONSTELLATIONS IN THE VISUAL ARTS

THE BOUNDARY STONES

The validity of using the boundary stones as a source of information on the Babylonian constellations is an important question that demands careful consideration. The boundary stones were records of transactions, usually involving the transfer of land, perhaps as a dowry gift, a royal grant, or a sale. The details of the transaction, with a description of the land and the names of the parties involved, were inscribed on the stone. The gods were invoked as witnesses and the texts detail the terrible curses placed on anyone who might try to hide or destroy the stone for unlawful purposes. Usually, a large number of gods were invoked and the text was supplemented by carving the symbols of the gods in relief on the top of the stone.[1] There can be no doubt that the images are god-symbols, as on a few kudurru the reliefs were labelled with the names of the gods they represent. The labelled images have been of major importance in helping to unlock the secrets of Mesopotamian iconography, though unfortunately, some are fragmentary or badly worn, and parts of the symbolism cannot yet be deciphered with certainty.

The conspicuous presence of the sun, moon and planet Venus on almost every kudurru led to exaggerated theories among certain scholars of the late nineteenth and early twentieth centuries, who proposed that the boundary stones were star-maps displaying the constellations of the celestial equator or the zodiac.[2] The origin of the symbolism was projected back to remote periods in the fourth or fifth millennium B.C. in order to have a theoretical correlation between the images and the observed phenomena. The analogies were usually forced and the theories broke down on the varying number and order of the constellations as they appeared on the stones.

1 On the boundary stones in general, see U.Seidl, "Die babylonischen kudurru reliefs", Baghd. Mitt. IV, 1968, 7-231; also Brinkman, "Kudurru" in Reallexikon der Assyriologie, 1981.

2 For example, F.Hommel, Zu den babylonischen Grenzsteinsymbolen. Beiträge zur morgenländischen Altertumskunde. Heft 1.

Predictably, the reaction in recent years has been to minimize, or deny entirely, the astral content of the kudurru symbolism. Concerning the kudurru, an eminent Assyriologist has been quoted as follows: "They are not astrological in any sense except that some of the gods, the sun, moon and planet Venus, were heavenly bodies and their symbols are accordingly representations of those heavenly bodies".

I propose to show that a great many symbols on the boundary stones do indeed represent constellations. At the same time I wish to stress that they should not be regarded as star-maps. Although a number of the deities whose symbols are included happen to be constellations, they are not necessarily arranged on the stones as they were found in the sky. From the large Mesopotamian pantheon certain gods were chosen and set down. The choice varied somewhat from stone to stone, and we do not know on what basis the selection was made. Where a system of arrangement is apparent, it is usually based on a hierarchical ordering, in descending scale from the chief gods down, with astral proximity apparently not considered. Sometimes the deities seem to have been grouped according to their functions, with gods probably associated with the underworld placed lower on the stone. Occasionally, two adjacent constellations with mythical connections are shown together, for instance Gula and the Dog (below, p. 44) and Leo and Hydra (p. 71). Most of the zodiacal constellations are found on the kudurru, though only ever a few at a time, and not in any apparent order.

A symbol which appears almost as often and as conspicuously as the sun, moon and Venus is the scorpion, symbol of the goddess Išḫara (Pl. 1). For this image it is possible to confidently make the equation:

the scorpion on the kudurru = the goddess Išḫara = the zodiacal Scorpio,

on the following evidence.

a) On three boundary stones the scorpion is labelled with the name "Išḫara". [3]

3 Louvre, SB3224, SB6431, SB31. Seidl, "Kudurru reliefs" p.157.

b) Several texts explicitly state that the scorpion constellation and the goddess Išḫara are one, e.g. Astrolabe B, Bii, 6-7; [4] mul APIN I,ii,29; [5] and EAE presumed tablet 51,X, 19.[6]

c) From cuneiform astronomical texts the Scorpion constellation has been identified as the zodiacal constellation Scorpio.[7]

d) Like other astral deities, Išḫara was invoked in prayers and incantations. In one she was addressed as kakkab Akrabu, (Scorpion star)[8] though the text goes on to refer to her as a goddess.

The constellations of the Pleiades and the Arrow, which have been discussed in connection with the prayers (above, p. 35) were also shown on the boundary stones. The Pleiades were regarded as the Seven Gods, so they appear as seven disks overlaid with stars (Fig.1), though the stars were omitted when the space was restricted, as on the seals (Pl. 10). The arrow is easily recognized in the expected form (Figs 2, 4, 6).

A number of zodiacal constellations including the goat-fish, the centaur-archer, the ram, the lion, and the flowing vase, are found on the kudurru, but we will return to these below (Ch. 3). Among the non-zodiacal constellations named in cuneiform star-lists, some images easily recognized on the kudurru are the Plough, mul APIN, [9] (Pl. 7), the Horse, mul ANŠE.KUR.RA [10] (Pl. 2), and the Fox, mul KA_5.A [11] (Figs 6,7.).

An important piece of evidence indicates that the boundary stone reliefs are reliable records of how the constellations were visualized. Verbal descriptions of the constellation pictures are rare, but fortunately a

4 E.F.Weidner, Handbuch der babylonischen astronomie, 1915, 77.

5 Ibid., 37.

6 E.Reiner, EAE tablets 50-51, 1981, 60-61.

7 Ibid., 12. These identifications were rechecked by Reiner, see p. 6.

8 BM tablet K330 + Sm394 + 81-2-4,244; see King, Babylonian magic and sorcery, 1896, 38-40.

9 E.Reiner, EAE tablets 50-51, 10, see APIN

10 Ibid., see ANŠE.KUR.RA.

11 Ibid., 12, see KA_5.A

small number survive on a tablet from Aššur, now in Berlin (VAT 9428), published by Weidner in 1927. [12] One section describes the star-picture of the goddess Gula and her dog. She is said to be an "image in clothes", with two stars drawn side by side under the base of her throne. The dog, treated as a separate constellation, is described as sitting on his haunches before her. Two stars form his chest, and seven stars his tail. The description is generalized, yet the few details it gives are strictly observed in the many images of Gula that appear on boundary stones. She is always shown as a clothed, seated goddess, usually with her dog squatting close by (Fig. 2, Pl. 3). Sometimes the two are treated separately, but if both are on the one stone, they are together.

VAT9428 also describes Gemini, Cancer, and Leo, so presumably Gula was in that part of the sky. A ^{mul}GU.LA is mentioned with Cancer and Aquila in an Enūma Anu Enlil text [13] tending to confirm the location in that general area. Gula's status as a constellation is reiterated in a hymn in which she is addressed as

> "....mother compassionate,
> among the multitudinous stars of heaven". [14]

An image found almost universally on the kudurru deserves special mention. This is the serpent, which sometimes undulates across the stone, sometimes acts as a shelf supporting other images and sometimes forms a heavy coil at the top. Hydra, the great serpent constellation that lies to the south of the ecliptic between Cancer and Libra, was unquestionably known to the Babylonians, as it is mentioned in astronomical texts as ^{mul}MUŠ [15] and is drawn and identified on an astrological tablet from Uruk (Pl. 53). Draco, the great serpent of the northern sky, might also have

12 E.Weidner, "Ein beschreibung des Sternenhimmels aus Assur", AfO IV, 1927, 73-85.

13 Reiner, EAE tablets 50-51, III, 28a.

14 C.J.Mullo-Weir, "Four hymns to Gula", JRAS, 1929, 3.

15 Reiner, op. cit., 13.

been a Babylonian constellation, and cuneiform texts record a constellation called "the Worm" (tūltu) [16] whose location is unknown. Clearly, the serpents on the boundary stones need not always have been intended to signify the same things. One stone, however, presents an image so clear and unambiguous that it may be used as a guide to interpret similar images, though it need not be universally applicable. The stone, now in the Louvre (SB25),[17] is Kassite, but found in the Elamite capital Susa, where many such stones were carried after Elamite victories. It is uninscribed, but the space ruled up for an inscription was designed to resemble the wall of a temple, with the god symbols above. The snake appears twice. It encircles the bottom of the stone to form a foundation for the building, and it coils into a tight disk at the summit. According to Enūma Eliš, Marduk created heaven and earth out of the two halves of Tiamat's split body, and this seems to be expressed symbolically on the stone. Men, animals and god symbols are placed between the "heaven" and "earth" of the serpent's body (Fig. 8a, b). The coiled serpent forms a ceiling on several stones (Fig. 10) and on one example in the British Museum (104 405) [18] a crowned figure seems to be raising the snake into the sky, where it is a shelf for the god symbols (Fig. 9) even as the sky holds the stars.

On other boundary stones the snake undulates across the field (Pl. 1) and then the image is more ambiguous. As many of the symbols are constellations, it is certainly a celestial snake, but whether it should be regarded as a constellation or as the sky itself, or both, is more difficult to judge.

A more detailed view of the astral iconography of the kudurru is beyond the scope of our study. This brief analysis, by drawing attention to some

16 E.Reiner, EAE tablets 50-51, 15.

17 E.Seidl, "Kudurru reliefs", no. 40.

18 Ibid., no. 94.

of the constellations and other celestial images found on the boundary stones, is intended merely to establish their legitimacy as a source of information on zodiac iconography.

THE ŠITIR ŠAMÊ

A remarkable and little understood use of the constellation pictures is the šitir šamê, or šitir burūmê, literally, "the writing of the firmament". This mysterious code was mentioned by Esarhaddon, who in 680 B.C. set up the famous "Black Stone" memorial, now in the British Museum (91 027), to mark the rehabilitation of Babylon after its destruction by Sennacherib in 689 B.C. The top of the stone is laid out in two registers with eight figures, some of which can be recognized as corresponding to Babylonian constellations (Fig.11). The images are repeated, with two alterations to which we shall return presently, on another of Esarhaddon's memorials, the British Museum prism (78223) (Fig. 12). The text states that these are pictures of constellations that spell out Esarhaddon's name: [19]

> "Pictures in coloured clay (in the form of) constellations, the likeness of the writing of my name I engraved thereon".

The text records that the symbols were also engraved on memorials of gold, silver, copper and several kinds of stone.

In what way the constellation pictures resemble the writing of Esarhaddon's name is a mystery. The šitir šamê has not been decoded, but some speculation on what constellations are represented may be useful to others with the linguistic competance to solve the problem.

Assuming that the figures should be read from right to left, the top line begins with the bull, ^{mul}GU$_4$.AN.NA., [20] the Bull of Heaven, Taurus. Next is a figure that is usually taken to represent a tree, and sometimes

19 Using the translation by D.Luckenbill, "The Black Stone of Esarhaddon", AJSL XLI, 1925, 165-173. Also discussed by C.G.Gadd, Ideas of divine rule in the ancient East, 1945, 93.

20 E.Reiner, EAE tablets 50-51, 12.

called a "Tree of Life", but this identification is far from certain, and iconographically it is different from other trees represented in Mesopotamian art. There can be little doubt that it is a sacred object, and in the context of Esarhaddon's stone, must represent a constellation.

Then there is a bearded human figure, most likely ^{mul}SU.GI.[21] the Old Man, now called the constellation Perseus. ^{mul}SU.GI. is one of the constellation pictures described in the Aššur tablet, VAT9428 (above, p. 44). The Old Man is said to be a clothed, bearded image, with his left hand stretched out to the Pleiades, and carrying in his right hand an object whose name can no longer be read. Esarhaddon's stone reverses the two hands. He is holding a rod-like object in his left hand and raises his right in a gesture of reverence. In the ^{mul}APIN texts (I,i,3) the Old Man is identified as EN.ME.ŠÁR.RA.

Last in the top line is a horned tiara, often shown on the kudurru, and known to represent the senior deities, Anu and Enlil. The constellation of the "Crown of Anu", ^{mul}AGA ^{d}A-nim, is mentioned in the ^{mul}APIN texts (I,ii,1) and in the star-list Astrolabe B (B,i,7-8), both of which associate it with ^{mul}Is lê, the Jaw of the Bull, the head part of Taurus, where the bright star Aldebaran is found. Thus three of the constellations of the top line, the Crown of Anu, Taurus, and the Old Man, are from one segment of the sky. The fourth constellation cannot be named or located, but as it appears again on the door of the shrine supporting the tiara, I suggest it is probably located near by.

The first image in the lower register is a rectangle with a circle at each corner, which Luckenbill thought might be the Waggon, therefore ^{mul}MAR.GÍD.DA.[22] The image is ambiguous, but might fit more easily with the plough and date palm as ^{mul}AŠ.GÁN, the Field. [23] Next is a date palm,

21 E.Reiner, EAE tablets 50-51, 15.

22 Ibid., 13.

23 Ibid., 11.

perhaps the constellation ^{d}A.EDIN, the Frond of the Date Palm, [24] and then the Plough, ^{mul}APIN [25] and then another ambiguous object which Luckenbill thought might be an ear of grain. In this case the constellation would be ^{mul}AB.SÍN, [26] in texts sometimes called "the Corn Ear", and referring to the zodiacal constellation Virgo.

Esarhaddon's prism (BM78223), mentioned above, repeats the same images except that the bull was replaced by a lion, ^{mul}UR.GU.LA. [27] and the "Tree of Life" was replaced by a palm without date clusters (Fig. 12). Presumably, the changes reflect some variable element in Esarhaddon's titles.

Apparently more examples of the šitir burūmê occur at Khorsabad, where the platforms supporting the temples of Sin, Šamaš and Nabu carried a frieze of brightly glazed bricks, depicting a lion, a bird, a bull, a fig tree and a plough (Fig. 13) . The figures are chrome yellow, outlined in black on a blue ground. The trees have green leaves and each frieze is surrounded by a border of white rosettes with yellow centres. The bird was described by Loud [28] as an eagle, in which case it would be ^{mul}A.MUŠEN, [29] our Aquila, and by van Buren as a raven, [30] which would make it ^{mul}UGA(.MUŠEN) [31] our Corvus. The lion, bull and plough as constellations have already been mentioned, leaving the fig tree as the only difficulty. Another frieze on the Ningal temple shows only the lion, fig tree and plough, though again the static layout and familiar figures would suggest constellations and the šitir šamê. If the figures on the Black Stone are to be read as

24 E.Reiner, EAE tablets 50-51, 7.
25 Ibid., 10.
26 Ibid.
27 Ibid., 16.
28 G.Loud and C.B.Allman, Khorsabad II, 1937, 41-2.
29 Reiner, op. cit., 10.
30 E.van Buren, Symbols of the gods in Mesopotamian art, 1945, 22.
31 Reiner, op. cit., 15.

Esarhaddon's name, as he claims, perhaps the examples at Khorsabad are the names of the city's builder, Sargon II (722-705 B.C.)

The friezes at Khorsabad and Esarhaddon's Black Stone testify to the importance of the constellations in the eighth and seventh centuries B.C. In both instances they have been consciously used as elements of royal iconography, for Khorsabad, built as Sargon's royal city, bears the king's signature as unmistakably as Esarhaddon's Black Stone. The Khorsabad friezes and the Black Stone are clearly evidence for the Mesopotamian origin of a practice we shall see continued by the Hellenistic monarchs, the Roman emperors and the rulers of medieval Islam. This was the custom of using the constellations as an element of royal iconography. The wide range of constellations used as imperial emblems in the first half of the first millennium B.C. was narrowed to focus primarily on the zodiac by the Hellenistic period.

TEMPLE SYMBOLISM

Astral symbolism is evident in the description of a temple rebuilt by Sennacherib (705-681 B.C.).[32] Records state that he widened its door, presumably the main entrance, and placed four burnished copper statues of GUD, son of Šamaš, in it. They stood with arms raised to Šamaš, their feet resting on two bronze shrines of copper fish-men and copper šuḫur-fish. Fierce dogs and Scorpion men were said to support the entrances to the rooms right and left. Sennacherib named the gate "The Door of the Road of Enlil", a road that can only be taken by celestial bodies as it refers to one of the three bands of stars mentioned in the "Astrolabe" texts, and the ^{mul}APIN texts (above, p. 23 and Appendix A. 15).

The Mad Dog and the Scorpion-man were originally minions of Tiamat, created by her to fight against the gods. According to Enuma Elis, (IV, 109-118) they were bound and imprisoned after the defeat of Tiamat, and

32 D.Luckenbill, The Annals of Sennacherib, 1924, 145.

they were probably constellations, as a reference to the "bound gods" in British Museum tablet (K 3507) [33] certainly refers to the constellations. The text, dedicated to Nergal, goes on to mention the "crushing of the gods of the night, the great stars". The Mad Dog is known as a constellation ^{mul}UR.IDIM [34] and has been identified with our constellation Lupus.

Another door of the temple opened towards the rising sun, and was called "The Firmament Door". The entrance to the court was called "The Door of the Igigi", the beings who were said to dwell in the upper heavens. A door to the north was called "The Door of the Waggon Star", the northern constellation that seems to have been the patron of journeys, even the journey to the netherworld (above, p. 36).

The position of honour and esteem accorded to the constellations in Mesopotamia during the first millennium B.C. has been set forth in the foregoing pages. They were powerful deities who received prayers and enjoyed cult-rites of their own. Their prestige was such that their names and images might be borrowed for royal iconography and to enhance a king's name in a mysterious astral writing. They were called upon to safeguard the honouring of a land transaction or a royal treaty. The symbolism of their cult myths could appear in temple architecture, boundary stones and seals. Their function as indicators of future events caused them to be carefully studied, providing a powerful impetus for Babylonian astronomy. So much will suffice for the constellations in general. Let us now turn to the zodiacal constellations in particular.

33 M.Sidersky, "Assyrian prayers" JRAS 1924, 782-785.

34 E.Reiner, EAE tablets 50-51, 16.

Chapter three. THE ZODIACAL CONSTELLATIONS IN MESOPOTAMIA

Until now no study has been devoted to assessing the continuity, or lack of it, between the images of the zodiacal constellations in the Ancient Near East and Graeco-Roman sources. Superficially, the names of the constellations in cuneiform texts suggest some areas of agreement with Greek texts, and some differences. In this chapter our concern will be to match cuneiform names with images from Mesopotamian art, in order to assess how the constellations were visualized.

ARIES

The first month of the Babylonian calendar was Nisanu, the month of the spring equinox and the Babylonian New Year Festival. Its constellation was LÚ.ḪUN.GÁ, the Hired Labourer, which at first glance appears to have little in common with the zodiacal Ram, ruling the equivalent month in Graeco-Roman calendars. LÚ.ḪUN.GÁ was named in the ^{mul}APIN texts, and the same name in an abbreviated form continued in use into Seleucid times. The lack of the Ram's name in cuneiform astronomical texts is the factor most often adduced as "proof" of a Greek origin of at least some zodiacal imagery. I shall argue, however, that the Ram's absence is an illusion, and that it was a symbol of the Hired Labourer. This argument will be based on texts which identify the Hired Labourer as a shepherd god, for whom the ram is an appropriate symbol. To demonstrate the validity of the argument I propose to show a) that animal symbols were used for some Mesopotamian deities; b) that the ram was used as a god-symbol, and that it occurs in contexts suitable to the shepherd deity concerned; and c) that images of the ram in Mesopotamian art of the first millennium B.C. suggest that it was identified with a constellation.

Two separate cuneiform texts explicitly identify the Hired Labourer as the god Dumuzi. One is ^{mul}APIN (I, 43)[1] and the other is an astrological

1 E.Weidner, Handbuch der babylonischen Astronomie, 1915, 36.

explanatory text in the British Museum (32574) published by King.[2] In addition to these a Prayer to the Gods of the Night from the Old Babylonian period listed ^{d}DUMU.ZI (the god Dumuzi) among the stars.[3] Thus, in the latter text Dumuzi is said to be a star or constellation, while the two former texts affirm that the constellation is that of the Hired Labourer.

Dumuzi is best known from a series of laments preserved from the Sumerian period. In these he is shown to be a god who died and was mourned annually. The laments were often written as though spoken by a woman who mourned him, a mother, sister or wife. There are also love songs, describing courtship and marriage, in which Dumuzi was the successful suitor for the hand of Inanna. Details of his life and death vary from text to text, but almost invariably he was said to be a shepherd. In a later text (CT XI,10,19) he was called "Dumuzi the Lord, the Shepherd of An, Son of Ea, husband of the Beautiful One". Because he spent part of the year in the underworld, he was called "Shepherd of the Netherworld" (AO 4346 Rev. 7,8).[4] Such quotations could be multiplied at length, but Dumuzi's status as a shepherd is too well known for this to be necessary. As Lord of the Sheepfolds it is quite appropriate that Dumuzi should be symbolized by a ram.

Mesopotamian art offers many examples of symbols used to designate a god or goddess. The stele of Aššur-nāṣir-apli II (883-859 B.C.) in the British Museum, portrays a row of symbols representing the principal celestial deities, i.e., an eight-pointed star (Ištar); forked lightning (Adad); the lunar crescent (Sin); a disk with multiple emmanations (Šamaš); and a horned tiara which probably refers to Anu, though on the kudurru a similar tiara is part of the symbol for both Anu and Enlil. Comparable emblems, though not identical, are worn on the king's person, suspended across his chest (Pl.5). These motifs also occur on boundary stones and on some examples were labelled with the name of the deities they represent. On p. 42 above, we noticed that the Scorpion constellation was equated with

2 L.W.King, Seven tablets of creation, I, 217.

3 E.Reiner, EAE tablets 50-51, p.2.

4 H.Radau, Sumerian hymns and prayers to the god Dumuzi, 1913, 46.

the goddess Išḫara, and that she was addressed as Scorpion Star and as a goddess in the same prayer. To add one further example of an animal constellation representing a deity, the Enūma Anu Enlil texts, before giving a series of omens concerning ^{mul}UZ, the She-goat, states plainly: [5]

"The goat is Ninlil, the great princess".

That the ram was used as the symbol of a god can be established from the boundary stones. As we have seen (p. 43), the images on the kudurru were god-symbols, and the ram occurs among them on six examples. [6] In addition, Ea's symbol, which was composite, containing some variable elements, occasionally included a ram-headed snake, usually coiled on top of the shrine (Pl. 7 , Fig. 8b). Dumuzi was listed as one of the six sons of Ea, [7] and could thus be symbolized on occasion as part of his father's court.

Dumuzi seems to have acquired a second function: that of gatekeeper. The myth of Adapa mentions Dumuzi and Ningizzida standing as entrance guardians at the gates of Anu's heaven. Ea informed Adapa that he would find them there, and instructed him in what to say to them. Ea's words suggest that it was normal for the two gods to be minding the gate, and it has been assumed that this was one of their functions. A representation of Ningizzida holding a gatepost emblem is known. A vase dedicated by Gudea portrays the deity as a serpent-dragon, holding the emblem and confronting entwined snakes (Pl. 8). Dumuzi, as we shall see presently, was also associated with certain crops, and on a few seals gatekeepers seem to have been accompanied by vegetation (Pl. 12). If the ram is Dumuzi's symbol we may expect to find it with a deity who might be a shepherd, with a gatekeeper, or with a deity associated with vegetation. We shall see that the ram occurs in all three contexts.

5 E.Reiner, EAE tablets 50-51, tablet 50, II, 12a.

6 Seidl, "Kudurru reliefs", no. 9 (Iraq, IM5527); 32 (Louvre, SB22); 33 (Louvre, SB32); 85 (Berlin W17722); 90a (London, BM90940); 40 (Louvre, SB25).

7 E.Van Buren, "The guardians of the gate in the Akkadian period", Orientalia, XVI, 1947, 314, quoting CT XXIV, 16, 30-5.

The ram motif is old. Two rams flanking a tree, or with their hoofs raised on a "mountain" are well-known on early Sumerian seals, while from the Akkadian period onwards a standing male figure carrying a ram is equally common. The ram has been assumed to represent an offering, but in many cases the figure carrying the ram is clearly a deity, and may represent a shepherd god (Pls 11, 14).[8] A remarkable example of this motif occurs on two small figurines, one in gold and one in silver, of the twelfth or thirteenth century B.C. which were found at Susa. The figurines portray a standing male figure clasping a small horned animal. The figure is draped below the waist, but his bare arms and chest are engraved with stars (Pl. 6). Those starry torsos could not belong to a human being, and the figures seem to portray a shepherd deity who is associated with a constellation, i.e. Dumuzi.

A deity with sprays of vegetation growing from his shoulders is accompanied by a ram on an Akkadian seal in the Southesk Collection (Pl.14). The ram raises himself on his hind legs, seeming to gaze up affectionately at the god. The ram and the deity each have a star engraved between the legs, suggesting a shepherd-vegetation deity associated with a constellation.

The gatekeeper, or entrance guardian motif was an important one in Mesopotamian temples and Palaces. In the Assyrian palaces the guardians of the external gates were usually powerful monsters of the bull or lion type, while those placed at interior doorways were more often winged human figures, sometimes with a bird or animal head. In the palace of Aššur-nāṣir-apli II at Nimrud the ram was associated with doorway guardians in two places appropriate to Dumuzi. A relief in the British Museum (124548) from the North West Palace portrays a section of the Assyrian camp where animals were tended. Inside a pavilion-stable a horse, perhaps the king's own charger, is being groomed. The front of the pavilion is supported by

8 Details of the seals will be given in the list of plates.

two elaborate columns, which form an entrance. On top of each column stands a ram (Fig. 14). Dumuzi, shepherd and doorway guardian, has perhaps been invoked to guard the royal horses, the rams at the top of the column being used to suggest his presence.

A second relief from the same palace (BM 124561) shows a winged being whose wrists and forehead are decorated with rosettes, a symbol worn in the reliefs only by supernatural beings and the king. The winged deity is carrying an ear of wheat in one hand and a young ram in the other (Fig. 15), attributes that could refer to Dumuzi, who was a shepherd, but evidently associated with the harvest as well. The fourth month of the Babylonian calendar, Dumuzu, when the harvest was completed, was called "the month of the binding of Dumuzi"[9], presumably as wheat. The relief was beside an interior doorway leading into a large chamber. Such inner areas may have been considered a symbolic equivalent of the upper heaven, thus making the presence of Dumuzi as gatekeeper appropriate. In any case, we again find the ram associated with a doorway guardian, in this case a winged one, functional for a constellation.

The rosettes worn by the deity were evidently significant, as the ram and rosette occur together on seals. One example in the Bibliothèque Nationale shows two figures on either side of a stylized tree, while behind them a ram balances on a rosette, in exactly the pose of the rams on the columns of the royal stables. In the field is a star and crescent (Fig. 17). A second seal, in Brussels, has a seated figure, a column of three rosettes, the same ram, and in the field above seven dots representing the Pleiades, stars which form part of the adjacent constellation of Taurus (Fig. 18). A third seal, in Paris, has the ram and rosette placed at the top, as though in the sky (Pl. 9). An astral context has been suggested on each seal; once by the addition of a star and crescent; once by including an adjacent constellation, the Pleiades; and once by placing the ram and

9 S.Langdon, Menologies, 120-1.

rosette at the top of the field.

The motif is found on other decorated items. Rams in the same pose stand on rosettes on engraved rivet staves from Ur of the late seventh century B.C., now in the British Museum (118604)(Fig. 16). The staves were found on copper bath tubs that had been re-used as coffins.[10] Very similar items were found at Ziwiye [11] in Iran and at Zenjirli in Turkey, proving that the motif was widely used in the first millennium B.C. On these items the ram and rosette are unaccompanied by other astral symbols, yet because the two appear together so often it is unlikely they were merely decorative. The motif was evidently so well understood that it could stand alone without secondary symbols. We shall see (p. 92) that constellation images were expected to be recognized without the addition of stars and crescents.

Another seal seems to show the ram as a "month star". A chalcedony seal of the Neo-Babylonian period, now in the Ashmolean Museum, portrays a man and a woman standing on either side of a cloth-covered table, apparently performing a ceremony. Various objects are on the table and across the top of the seal are a row of astral symbols: the winged disk, a crescent, the seven dots of the Pleiades, and a star. In the space behind the male figure is a fish, a ram and a bull. The choice of these creatures, in just that order, and with astral symbols, suggests the constellations Pisces, Aries, Taurus, representing the months Adaru, Nisanu, and Aiaru, that is, the period immediately before and after the spring equinox (Pl. 10).

In summary, textual evidence has shown that Dumuzi had a constellation, while boundary stones have shown that the ram was a god-symbol, and placed it with other constellation images. In addition, the ram was given an astral context on seals, where it was portrayed with adjacent constellations, such as the fish and bull, or the Pleiades. There is every reason to suppose

10 It is interesting to find a motif suggesting Dumuzi, a dying god, in funerary decoration, though the possible implications cannot detain us here.

11 A.Godard, Le trésor de Ziwiye, 1950, 17.

that Dumuzi was symbolized by the Ram constellation, just as Išḫara was symbolized by the Scorpion. As our study of the Graeco-Roman material proceeds, we shall find evidence that the zodiac reached Greece, Egypt and the Near East by three separate chanels, and the Ram was known in all three areas, indicating that it belonged to the Babylonian prototype. Had this not been so, one would expect to find evidence of it in Egypt, where unusual details of some Babylonian zodiacal images were conserved for centuries. We may confidently assume that the ram was the star-picture symbolizing the Hired Labourer.

In Babylonian astrology, as in Graeco-Roman astrology, Aries was the sun's Exaltation, that is, the sign in which the sun was thought to achieve its greatest astrological influence, perhaps because Nisanu was the month of the spring equinox, when the sun began its triumphant ascent into the northern sky. The system of Exaltations (Appendix A2) has already been noticed in cuneiform sources (p. 33), and we shall see evidence of it in the arts from time to time.

TAURUS

Two ancient images of a bull with stars suggests that the bull constellation may have been identified at a very early date. One is a small bull figurine from Ur, now in Berlin. Shallow recesses are scattered over the body showing that it once had an inlaid decoration of sun, moon, stars, and little trefoils, perhaps representing lesser stars, and giving the general impression of a bull constellation (Fig. 19).

The second image is on a shell seal of the Early Dynastic period in the British Museum (BM 102546), which seems to represent a bull constellation along with other images that, many centuries later, were to be associated with the zodiac (Fig. 20). A large bull, centrally placed and with a star between the front hoofs, is standing in front of a naked hero holding

gate-post emblems, that identify him as an entrance guardian. A creature that has been described as a lion-headed eagle [12] is on the bull's back. In front of the bull a male figure stands with raised hand, and between him and the bull is a smaller figure upside down. Behind the standing male the field has been divided into two registers. The upper portion has two scorpions, the lower a seated figure who holds what appears to be a set of balances over the head of a smaller figure.

On a seal of the first millennium B.C. this remarkable sequence of images might reasonably have been interpreted as zodiacal. Taurus, Libra and Scorpio might easily be recognized, while the entrance guardian could either signify that Taurus had just risen (through the gates of the eastern horizon), or might be a reference to Aries/Dumuzi. The seal, however, belongs to the early third millennium B.C., a period for which there is little information. The star between the bull's legs does suggest a constellation, and the bull constellation does seem to have been distinguished at an early period, as the figurine from Ur suggests. The juxtaposition of scorpion and scales also suggests constellations, and as we shall see later, the scorpion, too, seems to have been distinguished early. An astral interpretation is not out of the question. Lists of stars and omens are extant from the period of Sargon of Agade (c.2334-2279 B.C.) and indeed, the great majority of constellations known in later texts have both Sumerian and Akkadian names.

If the seal is astral, it shows the constellations of spring and autumn, and suggests an interest in the two equinoctial points. Hartner,[13] in arguing for an early identification of some constellations, stressed the equinoctial constellations, though he was apparently unaware of this particular seal. An investigation of the seal in relation to its own period would be interesting, but is outside the scope of this study.

12 E.van Buren, "The scorpion in Mesopotamian art and religion" AfO XII, 1937, 12.

13 W.Hartner, "The earliest history of the constellations in the Near East and the motif of the Lion-bull combat", JNES, XXIV, 1965, 1-16.

As a creature of great physical strength and virility, the bull was the symbol or sacred animal of four gods, Anu, Enlil, Sin and Adad. The Gilgamesh epic [14] relates that Anu had the power to release the Bull of Heaven, a ferocious beast whose first snort killed a thousand men. Enlil was likened poetically to a crouching bull,[15] and Adad, grasping a forked thunderbolt, was shown standing on a bull (Pl. 15). The connection between the bull and Sin, the moon god, is perhaps a reference to the horns of the crescent. This idea was perpetuated in Babylonian astrology by making Taurus the moon's Exaltation. The moon was shown in its Exaltation on an astrological tablet of the Seleucid period from Uruk, now in Berlin (VAT7851). It is engraved with a drawing of Taurus as a winged bull standing near a circular moon in which a bearded male figure is holding up a lion by the tail (Pl.52). Further over are the seven stars of the Pleiades, a part of the constellation Taurus, and on the tablet labelled with their name in cuneiform letters. The set is important for two reasons: first, because it portrays the astrological doctrine of Exaltations, indicating that it is reasonable to look for the same doctrine on other works of art; and secondly, because most of the images are captioned. These positively identified images can be used to identify similar figures. The Pleiades, for instance, are arranged as seven stars in a characteristic pattern

* * *
* * * * that we shall see often.

A seal in the Assyrian linear style from the eighth or seventh century B.C. depicts a male figure standing with raised hands before a massive winged bull (BM 89575). Above the bull is a crescent, a large star, and the seven dots of the Pleiades. The winged disk is above, or supported by, the male figure. The images can be identified from the sketch on the tablet. The winged bull, accompanied by the Pleiades, which form part of

14 VI, 93-153.

15 S.Langdon, "Hymn to Enlil with a theological redaction" Rev. d'Assyr. XII/1, 1915, 28.

the same constellation, is the zodiacal Taurus. The moon is in its Exaltation and as the winged solar disk is also present, we are perhaps to assume that the sun is in Taurus, i.e., that it is the month Aiaru. (Pl. 13).

The astral bull was not necessarily winged. The šitir šamê images on Esarhaddon's Black Stone (p. 46), explicitly stated to be constellations, portray a bull without wings (Fig. 11), as do the tiled images at Khorsabad (Fig. 13). Returning to the seals, images that seem to represent the sun and/or moon in Taurus are relatively plentiful. Sometimes, as on a neo-Assyrian seal in the Ashmolean Museum (Fig. 21), the bull appears to be genuflecting to its solar visitor, and we may assume that the month is Aiaru. The bull is often without wings, and the Pleiades are not always present, but the general formula of the imagery is recognizably consistent.

The seal showing Pisces, Aries and Taurus as month stars has already been mentioned (p. 56). In this case the emphasis seems to be on a time sequence or a season. In astronomical texts Taurus was either $^{mul}GU_4$.AN.NA or Is lê, the Jaw of the Bull,[16] believed to include the constellation only down as far as the Hyades. We shall find a similar dual tradition in Graeco-Roman zodiacs, where Taurus, and occasionally Aries, could be portrayed as a complete animal, or as a protome. The majority of Mesopotamian images portray the complete animal, or a double-ended protome, though a neo-Assyrian seal in Berlin does portray the disembodied head of a ram or bull floating among astral symbols at the top of the seal (Pl.28).

The bull was the animal of Adad, whose symbolic weapon was the forked lightning. On the kudurru the forked lightning is sometimes shown independently, and sometimes placed over the back of a bull (Pl. 3). It was perhaps the bull's function to add symbolically the element of loud, terrifying noise (thunder) to the image of the lightning. This suggests a relationship with the Bull of Heaven described in the Gilgamesh epic,

16 Reiner, EAE Tablets 50-51, 12.

which was capable of killing by its roar alone. It also suggests a connection with the sacred kettle-drum, which was beaten at times of danger, especially during an eclipse, and was apparently regarded as a divinity in itself. When it was necessary to re-cover the kettle-drum, a perfect black bull was selected to provide the hide and sinews and was sacrificed in an elaborate secret ritual. The bull was addressed by the incantation:

> "You are the exalted bull, created by the great gods,
> You were created for the service of the great gods....
> In the heavens your image ... for the rites of divinity". [17]

The reference to an image in the heavens suggests a constellation, especially as we know that other symbols such as Marduk's bow had been placed in the sky as reminders of divine actions. It is possible that each of the four bulls, the animal of Adad, the Gilgamesh Bull of Heaven, the bull of the sacred kettle-drum, and the constellation Taurus, were in some way interconnected. The iconography merely offers clues, and the known texts make no specific pronouncements.

GEMINI

The third Babylonian month, Simānu, was ruled by the constellation Gemini, the Twins. Cuneiform texts mention two sets of twins, MAŠ.TAB.BA.GAL.GAL,[18] the Great Twins, and MAŠ.TAB.BA.TUR.TUR,[19] the Lesser Twins. The descriptions suggest that both were part of the present constellation Gemini, the Great Twins occupying the major northern part of the constellation, and the Lesser Twins a smaller section to the south, with a perhaps a few neighbouring stars beyond the ecliptic. Alpha and Beta Geminorum, the two brightest stars of the constellation, are believed to have been the head stars of the Great Twins.

17 Fr.Thureau-Dangin, Rituels Accadiens, 23.

18 E.Reiner, EAE Tablets 50-51, 13.

19 Ibid.

A cuneiform description of the twins has survived on a tablet from Aššur (VAT9428) published by Weidner in 1927.[20] The descriptions are brief but of considerable interest. The Great Twins were said to be "two images" with beards, each with a star "drawn on his head". The image that "stands in the front", that is, the twin on the western side (above, p. 26), is carrying in his right hand a hi-in-ša, a whip or goad. The image "behind", that is, the eastern twin, holds a sickle-axe in his left hand. The twins are said to be wearing a kurkuru, but the text does not mention that they were clothed, a point noted specifically for each of the other anthropomorphic star-pictures described. The only other image said in the text to be wearing a kurkuru was the constellation of the goddess Erua, of whom it was also stated that she was wearing clothes. The kurkuru was apparently something that was worn, but not precisely clothing, possibly an ornament or insignia of some kind.

The Lesser Twins were described as two bearded images in clothes, with stars drawn on their heads. The "front" (western) image holds a whip in his right hand and the figure to the east carries a bolt of lightning in his right hand, and in his left something that can no longer be identified because of damage to the text. All four twins are male, as they are described as bearded. The Lesser Twins are clothed, but the Great Twins were apparently naked except for the kurkuru, as their clothing is not mentioned. In Graeco-Roman zodiacs, the twins were invariably nude.

Twins are plentiful in Mesopotamian art. Most noticable of the divine pairs are the entrance guardians, such as the great human-headed bulls from Nimrud, Nineveh and Khorsabad (Pl. 4). Twin guardians in human form are a recurrent theme on seals, usually associated with Šamaš or Ea. Generally, those shown with Šamaš are clothed, those with Ea are nude.

Akkadian seals portray Šamaš rising over the eastern horizon while

20 E.Weidner, "Eine Beschriebung des Sternenhimmels aus Aššur", AfO, 4, 1927, 73-85.

two attendants fling open the gates of heaven for him (Pl. 18). In the art of the first millennium B.C. Šamaš seems to have had two pairs of twin attendants. One pair, portrayed with the body of a bull below the waist, were gatekeepers. A relief on a clay tablet in the British Museum (91000) from the time of Nabû-aplu-iddina (ninth century B.C.) depicts them at their doorkeeping duties in a decorative relief on the side of the sun god's throne (Pl. 19). Similar deities support the winged solar disk on a relief from Tell Halaf, now in Aleppo (Pl. 20). The gatekeeping duties performed by the superb human-headed bulls at the entry to Assyrian palaces, and the bull-men who kept the gate for Šamaš, may have been mythically connected.

A second pair of deities attendant on Šamaš appear on the same BM tablet, 91000. Two small bearded gods were shown above the sun god's shrine, grasping the reins of the sun-disk and holding torches (Pl. 19). The more important deities such as Šamaš or Ea were thought to rule from a court or household of attendant deities, like a human king. Positions of importance within the court were sometimes allotted to the deity's own sons. We shall see presently that Šamaš was said to have twin sons who were also his squires.

On early seals Ea's train often included two nude, bearded men holding gatepost emblems, who stood near his throne or shrine (Pl. 12). On other seals he is attended by pairs of similar nude, bearded men who kneel reverently to hold perpetually flowing vases (Pl. 17). These deities often wore a triple-cord belt encircling the waist, knotted to one side so that short ends hang over the hip (Pls 12, 17, 29, 34). The name of the belt and its significance are unknown, but one is reminded of the kurkuru, mentioned in VAT9428. In Assyrian sculpture a similar belt with five cords sometimes encircles the belly pf animal doorway guardians.

Cuneiform texts identify three sets of twins as stars or constellations:

1 LÚ.LÀL and Latarak ;[21] 2 Kettu and Mēšaru [22]

21 ^{mul}APIN I,ii,5;E.Weidner, Handbuch, 36 ; E.Reiner, EAE tablets 50-51, 8.

22 T.G.Pinches, "Righteousness", Encyclopaedia of religion and ethics, vol. X, 777-8.

3 LUGAL.GÌR.RA and MEŠ.LAM.TA.È.A [23]

The first two pairs seem to have been of the entourage of Šamaš. LÚ.ÀL and Latarak may have been associated with the sunrise, as presumably they are the deities referred to in the following lines:

"Unto Latarak, him of the sunrise,
Unto Etasid, him of the eastern gate-bar". [24]

According to ^{mul}APIN (I,ii,10) LÚ.ÀL and Latarak are stars to the west of SIPA.ZI.AN.NA, i.e., to the west of Orion. Latarak's name appears in the texts giving instructions for making the little figurines that were buried under the floors of dwellings to protect them from demons.[25] Clay figures of Latarak might be buried under a court, or in a doorway, but two figures are specifically mentioned in both cases.

Kettu and Mēšaru were said to be the sons and squires of Šamaš, but were also stars as they appear in an astrological text as Kakkab Kettu u Mēšaru [26] Whether either pair of twins should be identified with the twins on the British Museum clay relief (Pl. 19) is probable, but uncertain without further evidence.

LUGAL.GÌR.RA and MEŠ.LAM.TA.È.A were said to be sons of Anu. [27] They too could be modelled as little clay figurines and buried in doorways. Texts state that a table of offerings should be set before them, and sacrifices made to them.[28] These two deities are undoubtedly to be identified with one set of the astral twins on the ecliptic, though which is a puzzle, as as according to ^{mul}APIN (I,i, 5) LUGAL.GÌR.RA and MEŠ.LAM.TA.È.A were the Great Twins, but according to Astrolabe B [29] they were the Lesser Twins.

23 E.Reiner, EAE tablets 50-51, IV 2a and V 1b.
24 S.Langdon, Sumerian and Babylonian psalms, 163, quoting CT XV 11, 16.
25 C.Leonard Woolley, "Babylonian prophylactic figures", JRAS 1926, 705.
26 T.G.Pinches, op. cit.
27 Deimel, Pantheon Babylonicum, no. 1896, and 2125.
28 C.L.Wooley, op. cit.
29 Weidner, Handbuch, 78; E.Reiner, EAE tablets 50-51, p. 33.

In time further evidence may solve this problem, but for the moment it is worth noting again that the Great Twins were not said to be clothed, and that the attendants of Šamaš usually were clothed, so that if LÚ.LÀL and Latarak, or Kettu and Mēšaru were part of the constellation, they might logically be represented by the Lesser Twins, who were described as clothed in VAT9428 (above, p. 62).

An image of particular interest appears on two seals in the Bibliothèque Nationale, [30] one in haematite, the other in lapis lazuli. An enthroned male divinity is shown holding a rod and ring and resting his feet on the back of a dragon. Before him a standing male figure raises a hand in prayer or worship. In the field between the god and his worshipper is the sun and crescent, the goat-fish, and a small vase of the kind usually shown with perpetually flowing water. Behind the standing worshipper are two nude males with shaven heads. Their bodies cross, but are linked at the shoulder, and it is not clear whether they have their arms around each other or are physically joined (Fig. 22).

In later centuries a common image of the Gemini portrayed them with their arms about each other's shoulders, and some Hellenistic zodiacs show them with their legs crossed as well (compare Pls 61 and 66a), though the latter was discontinued on most Roman examples. Later Zoroastrian sources mention twin deities who had grown from the earth with their arms about each other's shoulders, and were joined together at that point:[31]

> "Matrō and Matrōyaō grew up from the earth in such a manner that their arms rested behind their shoulders and one joined to the other they were connected together and both alike."

The Bibliothèque Nationale seal is almost 3,000 years older than the written description from the Bundahišn, but the image suggests that a myth concerning twins joined at the shoulders may have been known in the Near East over a

30 L.Delaporte, Catalogue des cylindres Orientaux, 1910, Pl. XII, no. 132.

31 Translation from E.W.West, Pahlavi Texts I, Bundahiš, XV, 2. p. 53. From the Series Sacred Books of the East.

long period. Joined twins whose legs cross each other are portrayed on a seal impression in the Yale collection (Fig. 23), dated to the seventh year of the reign of Samsuiluna (c.1749-1712 B.C.) of the Hammurabi Dynasty. In this image the twins have long, curling hair instead of shaven heads.

The twins on the Bibliothèque Nationale seal play no part in the scene between the god and his worshipper, so presumably they are part of the field like the goat-fish and other astral symbols, and therefore represent a constellation, i.e. the Gemini. It is possible that the enthroned deity is Sin, with the constellations representing locations on the path of the moon. The moon's position among the constellations can be easily observed, and according to Langdon [32] the daily stations of the moon, referred to as "Houses" (i.e. "the House of the fifteenth day") are mentioned in cuneiform sources as early as the Sumerian period. Gemini and Capricorn, five signs apart, may perhaps represent the new moon and full moon.

CANCER

The Crab constellation, ^{mul}AL.LUL, ruled the month Dumuzu and marked the position of the summer solstice. It was called the "Star of Anu" in ^{mul}APIN (I,i,7) and again in Astrolabe B (B ii, 24-27), and in Enuma Anu Enlil[33] there is the even more positive statement: "Anu is the Crab".

A description of the constellation is given in VAT9428 (above, p.62) which explains how the stars were placed within the figure and does not comment on the shape of the image. Presumably, then, Cancer was simply a crab, as the name suggests. According to VAT9428, the body is outlined with stars and between the outlines the stars are pressed together, riding on top of each other. Weidner [34] thought this to be a reference to the star-group now called Praesepe, and mentioned that the group is sometimes referred to in cuneiform texts as the Craftsmen.

32 S.Langdon, The Babylonian epic of creation, 151.

33 E.Reiner, EAE tablets 50-51, III, 33a.

34 E.Weidner, "Sternenhimmels", 80.

The description of Cancer's stars goes on to say that a star is "drawn on his point" and that SAG.ME.GAR (Jupiter) stands in front of Cancer, and UR.GU.LA (Leo) follows SAG.ME.GAR. The term "in front of" could be used to signify that the planet is to the west of Cancer, but here this cannot be the case, as Jupiter is said to be followed by Leo, which lies to the east. What the text means is that Cancer is oriented with its head and claws facing east towards Leo, who in turn is facing west towards Cancer. Thus Jupiter may stand in front of Cancer and still be followed by Leo. These are the normal positions found on antique star-maps (Fig. 38). Indeed, the form of expression suggests that the writer was working from a map.

The note that Jupiter "stands" in front of Cancer refers to the planet's astrological Exaltation in Cancer. Evidently, star-maps were intended to display the "ideal" situation, that is, with the sun, moon, and planets occupying their most powerful positions. The sketch of Taurus from Aššur (p. 59) portrayed the moon in its Exaltation, and on another tablet (below, p. 73) we shall see Mercury represented in its Exaltation, Virgo (Pl. 54). The practice of portraying the celestial deities in their Exaltations was to continue on later Graeco-Roman monuments.

Cancer had the mythical association with water proper to a crab. One text (VAT9436) describes it as the "River of Ningirsu" [35] with the stars to the right and left of the front being respectively the Stars of the Tigris and Euphrates, a statement corroborated in other texts. The constellation was sometimes called "the destroyer", and sometimes "the wicked rebellious star".[36] It seems to have been a dangerous constellation whose menace was increased by the presence of a hostile planet. An astrological text states: [37]

35 E.Weidner, "Sternenhimmels", 80.

36 S.Langdon, Menologies, 5.

37 Quoted from CAD vol. I, pt. 1, 361.

"If Mars (approaches) Cancer (.....) he should throw (.....) into the river and the curse of Cancer (will not effect him)".

Exactly what the text once recommended throwing into the river is lost. It is known, however, that at a time of danger to his fleet, Sennacherib made an offering of a golden crab, a golden fish and a golden ship to Ea by casting them into the water.[38]

The crab is exceedingly rare in Mesopotamian art before the Seleucid period, and the few examples from Assyrian palaces seem to be purely mundane, with no reference to the constellation. Reliefs depicting Sennacherib's campaigns include scenes of the army passing through rivers and swamps (Pl. 21). Crabs were portrayed with other marine creatures, usually with opened pincers in a threatening pose. The crab is not known among the constellation images on boundary stones, and does not occur on the seals, yet the constellation was referred to as a Crab. The almost total absence of this creature in the art of the region, which was dependent on its rivers, is puzzling, but may be related to the constellation's reputation for hostility. As in the case of the Hired Labourer and the Ram, the Crab was perhaps evoked by an image that was mythically related rather than identical. There are indications that this image may have been the Scorpion-man.

According to the Gilgamesh epic (IX, ii, 1-9), the beginning and end of the sun's journey was guarded by Scorpion-men: [39]

".... as he reached the mountains of Mashu
where every day they keep watch o'er the sun-god's rising and setting,
unto the zenith of heaven uprear'd are their summits (and) downwards
(deep) into hell reach their breasts; (and) at their portals stand sentry
scorpion men, awful in terror, their (very) glance death; and tremendous
shaking the hills their magnificence; they are the wardens of Šamaš,
both at his rising and setting".

The summer solstice is in Cancer. Here the sun reaches its most northerly point and must begin the journey back to the south and winter. Scorpion-men,

38 D.Luckenbill, Annals of Sennacherib, 74-5.

39 Translation, R.Campbell Thompson, Epic of Gilgamesh, 1928.

described as the "wardens of Šamaš", might reasonably be thought to guard the end of the sun's northward journey. The description of Cancer in the Aššur text (VAT9428) stresses its position on the summer solstice by noting that it is 180° from Capricorn, the winter solstice.[40] Two seals of the first millennium B.C. portray images perhaps representing the solstices. One, in the Pierpont Morgan Collection, shows the goat-fish raised on a dais receiving the hommage of a male figure, presumably a priest (Pl. 22). Behind Capricorn and level with him are two Scorpion-men. The second seal portrays a figure saluting a winged Scorpion-man, while Capricorn is to the figure's rear (Pl. 23). On each of these seals the straight line arrangement seems to suggest that the images are opposite each other, i.e. separated by 180°.

Textual evidence points to a cultic meaning for the solstices, apart from their astronomical significance:

"From Tammuz to Kislev is the period of death;
From Kislev to Tammuz is the period of the revivification of nature".[41]

Tammuz (or Dumuzu) is the month of the summer solstice; Kislimu is the month immediately before the winter solstice. Thus, the sun's cycle through the months was divided into two opposing halves, each of six months, having complementary meanings. We shall find similar mythical divisions of the sphere in Graeco-Roman religion (p. 230).

Scorpion-men are common in the art of the first millennium B.C. Others have suggested that the Scorpion-man, who was often portrayed as an archer, was the earlier form of Sagittarius, but a glance through the seal catalogues will show that both icons, the Scorpion-man and Sagittarius, developed around the same time. Both came into use towards the end of the second millennium B.C. and remained popular even into the Seleucid period.

The contradiction of finding the Crab's name in the astronomical texts

40 E.Weidner, "Sternenhimmels", 80.

41 S.Langdon, Sumerian Liturgies and Psalms, 330.

without finding its image in the arts is an intriguing problem for which the Scorpion-man may be the answer. The Scorpion-man does appear on the boundary stones (Pl. 3) and gives evidence of his solar affiliations by supporting the sun-disk on seals (Pl. 28). Further evidence may in time provide a clearer picture.

LEO

Images of the lion are well-known in Mesopotamian art. Early Dynastic seals often feature a lion-man, usually in combat, but by Akkadian times the lion appeared more often as the animal accompanying a deity. Towards the beginning of the first millinium B.C. massive statues of human-headed lions were sometimes used as the guardians of temples or palaces. At the same time, in the iconography of Assyrian kings the lion was a worthy quarry for a royal hunt. The motif of the lion as a deadly predator was standard over the whole period, but seems to have increased in importance in Achaemenid times. The lion was the sacred animal of three warrior deities, Ištar, Ninurta and Nergal. Seals and reliefs show Ištar standing on a lion, or with the lion decorating the side of her throne (Pl. 24). Ninurta's temple in Nimrud contained huge statues of human-headed lions, while the lion in the act of killing, a prevalent theme, has been taken to refer to Nergal. There is no indication which, if any, of these refer to Leo.

A description of Leo, ^{mul}UR.GU.LA was given in VAT9428, but is damaged, leaving only the information that there is a star on the mane and chest. Leo's chest star was ^{mul}LUGAL (Akkadian šarru), the King, now known by its Latin equivalent, Regulus. The significance of the name is unknown, but it was a source of omens independent of the rest of the constellation. The name UR.MAH was used sometimes as an alternative to UR.GU.LA . Weidner speculated that the two names may have indicated two constellations, perhaps a lion and lioness,[42] but a more recent view is that they were identical.[43]

42 E.Weidner, "Sternenhimmels", 81-82.

43 E.Reiner, EAE tablets 50-51, 16.

A drawing of Leo, scratched onto a clay tablet from Uruk, is preserved in Berlin (VAT7847). The drawing, from the Seleucid period, shows the constellations Leo and Hydra with the planet Jupiter at the left, each with its name in cuneiform characters.(Pl. 53). Leo stands on the back of the serpent-dragon, (^{mul}MUŠ), which has the same curled horns and side-locks as Marduk's dragon. Both creatures have small wings sprouting from the shoulder blades. Portraying them together reproduces a stellar relationship. Hellenistic star-maps (Fig. 38) show the undulating curves of Hydra to the south of the ecliptic, running from Cancer to the feet of Virgo. Leo is poised almost above the serpent's head, with Cancer facing him. The Uruk sketch compresses the distance between Leo and Hydra, and raises the serpent's head somewhat higher, but the agreement is close.

One may visualize the Uruk sketch of Jupiter, Leo and Hydra as part of a strip map of constellations on or near the ecliptic, joining to the left with another section showing Cancer, and to the right with Virgo. We are fortunate in having the adjoining sketch to the right and an adjoining description to the left. The sketch of Virgo (Pl. 54), which has the end of Hydra's tail coming in from the left to show the continuity, will be discussed below (p. 94). Jupiter on the left is the link with Cancer, as according to VAT9428 (above, p.67) Jupiter stands in front of Cancer and is followed by Leo.

The pairing of Leo and Hydra on the sketch is important. It presents the group as a simple map, suggests a mythological association between the two, and allows us to recognize the same pair occuring together on other works of Mesopotamian art, and to follow the motif into Egyptian art. A winged lion striding along the back of a serpent-dragon on an unfinished boundary stone in the British Museum (BM90850) (Fig. 24) is recognizably Leo and Hydra from the named images on the Uruk sketch. When the zodiac passed into Egypt, the link between Leo and Hydra was transferred with it. In the late Ptolemaic temple at Dendera, where the zodiac appears as a

foreign intrusion among native Egyptian constellations, Leo stands on the back of a serpent, which is still large, though diminished in comparison to its Mesopotamian counterpart. The association continued on the zodiacs of Roman Egypt even as late as the second century A.D., by which time the huge serpent-dragon had contracted to an insignificant snake under the lion's feet (Pl. 133 and Fig. 67).

Constellation stars have not been marked on the Aššur sketch, yet the image of a winged lion on a serpent-dragon is a specific and easily recognized image. Such a precise definition of Leo is misleading, as we shall see from another Leo whose identity is also established by textual evidence. This is the lion in Esarhaddon's "Writing of the Firmament", the Šiṭir šamê, as it appears on the prism BM78223 (above, p. 48 and Fig. 12). Here, Leo is an ordinary wingless beast walking on an undefined surface. The Khorsabad frieze uses a similar wingless lion (Fig. 13). The only attribute these images share with the Uruk sketch is that the lion walks forward, perhaps a reference to the movement of the constellations across the sky. Clearly, the iconography is flexible. Leo can be defined simply as a walking lion, with or without wings or serpent-dragon. Nor do the šiṭir šamê pictures include crescents or stars to suggest an astral setting. Without Esarhaddon's statement that they represent constellations, the pictures could not have been identified.

A walking lion that might be Leo appears in the glazed tiles on the Ištar Gate from Babylon, now in Berlin. As well as the lion (Pl. 26) the gate is decorated with two other images that could be constellations, the bull (^{mul}GU$_4$.AN.NA), and the serpent-dragon (^{mul}MUŠ) (Pl. 27), not under the lion's feet here, but proudly separate. The gate, of monumental proportions, is tiled in vivid blue and dedicated to Ištar, the planet Venus. The blue colour, the association with Ištar, and the fact that the lion, bull and dragon are known as constellations suggests they might indeed be Leo, Taurus and Hydra in this context, despite the absence of additional stars or crescents.

A walking lion, sometimes winged, was a common decorative motif throughout Mesopotamia and peripheral regions during the first millennium B.C., especially on shields, helmets, belts and weapons. The šitir šamê pictures show that Leo could be as undistinguishable as any of these, and it is possible that at least some may represent the constellation.

VIRGO

Virgo, the sixth zodiacal sign, was called in cuneiform sources ^{mul}AB.SÍN, translated as "the Furrow". The name suggests agricultural pursuits, but hardly the virgin corn goddess known in Greek zodiacs. This apparent discrepancy has frequently been mentioned, and likened to the seeming absence of the Ram (Aries), which in cuneiform texts is called the Hired Labourer. Together these constellations are quoted as "proof" that the Greek zodiac did not originate in Mesopotamia. There is, however, evidence to show that "the Furrow" is merely an oblique term that does conceal a grain goddess. A late Babylonian star-catalogue refers to Virgo as "the Barley Stalk", [44] and in the slightly earlier ^{mul}APIN texts (I, ii, 10) ^{mul}AB.SÍN is glossed with the statement that it is the "corn-ear of the goddess Šala".

Virgo's identity as a grain goddess is confirmed by a line drawing of the Seleucid period preserved on a clay tablet from Uruk, now in Paris (AO 6448). The sketch shows a clothed goddess in profile, holding a stalk of grain (Pl. 54). She faces towards the planet Mercury, who is shown with Virgo because that sign is the planet's Exaltation. To the left of Mercury is ^{mul}UGA(.MUŠEN)(Akkadian ārību), the Raven, our constellation Corvus, pecking at the end of Hydra's tail, which joins to the serpent-dragon in the sketch of the preceding sign, Leo (Pl. 53). Cuneiform captions give the names of the constellations and planet.

Virgo's iconography seems to have been as flexible as her names.

44 A.Sachs, "A late Babylonian star catalog", JCS VI, 1952, 146-50.

A boundary stone fragment in the British Museum (90940) (Fig. 4), shows what appears to be an ear of grain, and probably corresponds to Virgo's title of "the Barley Stalk" or "the Corn-ear" in the astronomical texts. Although the ^{mul}APIN gloss and the Uruk sketch prove that the constellation was indeed a grain goddess, it seems that her more oblique titles could also take visual form. The growing stalk of grain, or more often three stalks of grain, re-appeared many centuries later as the standard representation of Virgo in Islamic art.

The ear of corn or barley was perhaps the most important element of the constellation, the goddess holding it being an embodiment of the grain itself. Šala, identified with Virgo in the ^{mul}APIN texts was one of several grain goddesses worshipped in Mesopotamia in different periods and regions. Another was Nidaba, a grain goddess, patron of writing, numbers and astrology, who appeared to Gudea, Governor of Lagaš (c.2,200 B.C.) in a dream, holding a stylus and tablet (Gudea, Cyl. A5, 21-25). Nidaba, apparently linked particularly with millet, also had a constellation, whether Virgo or a different star-group is unknown. A bowl from the time of Gudea, probably used for measuring grain, was dedicated to her. The inscription described her as "she of the stars, beloved of heaven, abundance of lands".[45] She was still an important goddess in the first millennium, when a text of Assurbanipal notes that during a period of hardship in Elam, he sent the goddess Nidaba to the Elamites, to appease their hunger,[46] presumably in the form of a shipment of grain.

If it is possible that both Šala and Nidaba might be regarded as the goddess holding the grain, Nidaba's ancient rôle as a scribe and a lady of numbers may explain why the planet Mercury, i.e. Nabu (above, p. 32), had its astrological Exaltation in Virgo. Nabu was himself a scribe, a craftsman and architect and seems to have superseded Nidaba's rôle as scribe of the gods during the first millennium B.C. Indeed, Nidaba even became his consort.[47]

45 S.Langdon, Tammuz, 151.

46 Ibid., 153.

47 W.H.Römer, "Religion of ancient Mesopotamia", Historia Religionum, I, 137.

LIBRA

Libra, the Balance (^{mul}Zibānītu), was the constellation of the seventh month, Tašrītu, the month of the autumn equinox. The Babylonians imagined the constellation in two quite different ways, as a paradox. It was a set of Scales, yet the balance pans were formed by the pincers of Scorpio, the following zodiacal constellation. In astronomical texts it was standard practice to refer to the constellation as a Balance, and in the catalogue of "marker stars" (above, p. 26) whose locations were used to describe the position of a planet or the moon, the "southern balance-pan" and the "northern balance-pan" were separate entries.[48] In other texts, however, the Scales were called the "Horns of the Scorpion". This term occurs in the ^{mul}APIN texts (2,ii, 11) and in an Achaemenid horoscope (below, p.107), which notes that when the child was born, "the moon was below the Horns of the Scorpion".[49] We shall find the same terminology used in later Greek astronomy.

In Mesopotamian calendars the equinoxes seem to mark distinct breaks in the year. When it was necessary to add intercalary months they were inserted just prior to the equinoxes, either as a second Addaru before the spring equinox in Nisanu, or as a second Ulūlu prior to the autumn equinox in Tašrītu. Some Mesopotamian cities celebrated New Year rites at both the spring and autumn equinoxes. Thureau-Dangin published texts from Uruk which describe the procedures for the autumn ceremonies, but refer to the corresponding ceremonies in spring.[49] The practice seems to have had a long history, going back to the kings of Ur. It suggests that the two six-monthly cycles, one beginning in spring, the other in autumn, may have been regarded as distinct and separate, needing individual dedications.

Graeco-Roman sources of later centuries refer to two methods of

48 A.Sachs, "A late Babylonian star catalog", JCS VI, 1952, 146-50.

49 F.Thureau-Dangin, Rituels Accadiens, 1921, 86-88.

bisecting the celestial sphere. According to the first scheme it was divided along the line of the solstices; the segment from the winter solstice to the summer solstice being the sun's journey to the north, and from the summer solstice to the winter solstice being the sun's journey to the south. We have already encountered this idea in cuneiform sources (above, p.69). The second method divided the sphere through the equinoxes, i.e. through the celestial equator, which was regarded as a symbolic horizon: the hemisphere above the celestial equator was the province of the celestial deities, and the southern hemisphere belonged to the deities of the underworld. When the sun crossed the celestial equator at the autumn equinox it symbolically entered the underworld. The late Roman author Macrobius (Sat. I, 19, 10) attributed the idea to the "Assyrians or Phoenicians", but the evidence suggests that the concept may already have been familiar in ancient Mesopotamia. It provides a reason for having two "new year" dedications, one presumably directed to the gods of the upper world, and the other to the gods of the lower world. It also explains why Nergal, as the planet Mars, had his astrological Exaltation in Capricorn, at the very centre of his underworld domain. Zodiacal symbolism during the Roman empire emphasized Libra as the entrance to the Hereafter, [50] the Scales evidently signifying a judgement of souls. The question of whether ancient Near Eastern thought also applied this symbolism to the zodiacal Scales is of considerable interest, and will be considered next.

Mesopotamian literary texts commonly refer to scales in metaphors concerned with fair dealing or honesty. The deity concerned with these values was Šamaš, to whom Libra's month, Tašrītu, was sacred. [51] Hammurabi attributed his law code to Šamaš, and on the kudurru the sun god was addressed as "the judge of heaven and earth". [52] Astrologically, Libra was the Exaltation of the planet Saturn, described as the "star of law and

50 This is even expressed visually on some monuments, see pp.

51 Labat, "Un calendrier Babylonien des travaux des signes et des mois, 197.

52 Hinke, Boundary stone, 57.

order" [53] and considered to be the night regent of the sun. [54] The honouring of two deities concerned with justice and social order in a month whose constellation was a set of Scales is too much for co-incidence, and we may assume that a judgement of some kind was implied. Mesopotamian theology seems to have included the idea of a judgement on the souls of the deceased, as the netherworld was equipped with judges, the Anunnaki. Textual references to life after death vary in their degree of pessimism, but some, at least, suggest the possibility of a comfortable and even happy existence. [55] Nevertheless, the judgement implied by the astral Scales may have been on the living, a "fixing of destinies" for the following period. The intimate relationship between the astral Scales and the Scorpion constellation suggests danger, and perhaps the fear of retribution, though whether for the living or the dead is uncertain.

Scales seldom occur in Mesopotamian art, though one rare example is of considerable interest. The Early Dynastic seal (Fig.20), described above in relation to Taurus (p.57), portrays in an apparently astral setting a seated figure holding a set of scales over the head of a smaller figure. The image might easily be taken to symbolize a divine judgement, and suggests that a connection between astral Scales and the fixing of an individual's fate may have a long history.

The only other images of scales appear in a mundane setting on some Assyrian memorials, such as the basalt obelisk of Aššur-nasir-apli II (883-859 B.C.) in the British Museum (118800). It is puzzling why the balances appear so rarely, but it is possible that the viewer was meant to "see" them in certain images of Scorpio.

53 Fr.Thureau-Dangin, Rituels Accadiens, 138.

54 Jastrow, "Sun and Saturn", Rev. d'Assyr. VII/4, 1910, 170.

55 Enkidu's report to Gilgamesh, see A.Heidel, The Gilgamesh epic and Old Testament parallels, 1946, 100-101.

SCORPIO

Scorpio, ^{mul}GÍR.TAB (Akkadian zuqaqīpu), was the constellation of the eighth month, Araḫsamna. It was the star-group of the goddess Išḫara, the goddess herself even being addressed on occasion as "Scorpion star" (above, p.43). Išḫara was noted as a giver of oracles, and was called Lady of Vision, [56] but was also called Queen of the Oath,[57] as she was said to protect the sanctity of sworn agreements. This may be why the Scorpion was almost universally shown among the astral symbols on the boundary stones, usually in a prominent position near the top (Pl. 1).

The scorpion is one of the most ancient motifs in Mesopotamian art, found on the painted pottery of the sixth millennium B.C. and popular in every period thereafter, especially for amulets and seals. At what period it was first identified as a constellation is unknown, but the frequency of its use as a motif suggests that it must have been one of the first to be recognized. Scorpions on the Early Dynastic seal discussed in relation to Taurus and Libra (Fig. 20) may already be astral, as taken together, the motifs on the seal convey that impression.

Scorpio's iconography suggests fertility associations. The month Araḫsamna was called "the month of opening the soil with the plough" [58] and Akkadian seals sometimes include the scorpion in scenes of ploughing. A shell seal in the Yale collection (NBC5990) portrays three male figures working a field with an ox-drawn plough and seeder. Overhead are three birds, a large crescent, a scorpion, and a star (Fig. 25). The seal might almost be an illustration for the maxim relayed two millennia later by the Roman author Pliny (NH, 18, 55), who mentioned that "Zoroaster" advised sowing seed when the sun has passed the twelfth degree of Scorpio, and the moon is in Taurus. "Zoroaster" in this case probably means "Near Eastern

56 S.Langdon, Tammuz, 128.

57 Ibid., 125.

58 Idem, Menologies, 129.

sources". Farmers' almanacs, of the kind popularized by Greek and Roman authors such as Hesiod, Vergil, and Columella among others, already had a long history in the Near East, the earliest known example being 107 lines of advise written for Sumerian farmers of the third millennium B.C. [59]

The scorpion on the Yale seal, placed overhead between a star and the moon, must certainly represent the constellation Scorpio, suggesting that it had been recognized at least as early as the Akkadian period. The three male figures are probably gods, for as Buchanan [60] pointed out, one seems to have been assimilated to the back of the bull, to form a bull-man. A second early Akkadian portrayal of ploughing is in the Oriental Institute, Chicago (AS 31/660). The plough is guided by two clothed gods and drawn by a serpent-dragon and a lion, the combination suggesting Leo and Hydra. Over the serpent-dragon a large scorpion has become an extention of the arm of one god. Across the top of the seal is a crescent, a star, and an emblem probably representing a crop. The improbable help of a lion, serpent-dragon, and scorpion suggests that the ploughing was envisaged as occurring in the sky, recalling an incantation recited during the delivery of flour for the daily meal set out for the gods in the temples: "The astral ploughman has yoked in the plain (of heaven) the seed-sowing plough" (Pl. 31).

The fertility aspects of Scorpio evidently remained important, even as late as the first millinium B.C. Among the omens of the Enūma Anu Enlil series, an explanatory note remarks that "the Scorpion is for the market", showing a change of emphasis on the fertility theme from survival to economics. One of Scorpio's omens reads: [61]

> "In month VIII the Scorpion, Išhara; (if it) rises (at its specified time): the market of wool and oil (will) ..., if (it rises) not at its specified time: (....) in the land".

59 P.Walcot, Hesiod and the Near East, pp. 94, 104, 109.

60 B.Buchanan, Early Near Eastern seals in the Yale Babylonian collection, 174.

61 E.Reiner, EAE tablets 50-51, X, 19.

Human fertility was evidently another of the scorpion's concerns, as a seal of the Early Dynastic III period shows the scorpion under the bed during the consumation of the sacred marriage (Pl. 36). The idea seems to have passed into Graeco-Roman medical astrology, where Scorpio was said to govern the genitals. This may also have been influenced by purely mundane factors, as scorpion stings in this region were apparently common in ancient Mesopotamia.[62]

Scorpions appear on large numbers of seals, a proportion of them certainly astral. We will examine just one, an attractive seal from Ur, which perhaps shows Išḫara with the scorpion. Two large scorpions with tails upcurved are confronted, their pincers surrounding a star. Beside them stands a goddess holding a staff with a device on top, possibly a star (Pl. 37). The scorpions are viewed from above (or below) while the much smaller goddess stands at eye-level, creating a strange distortion of perspective that makes sense only as a constellation.

SAGITTARIUS

The centaur-archer, the man-horse with drawn bow, materialized as an entirely new vision in the art of the Kassite period. The earliest dateable examples are from the twelfth century B.C., when it is found in both Babylonian and Assyrian contexts, suggesting that the image was probably developed a little earlier. Its constellation is ^{mul}PA.BIL.SAG, which rules the nineth month, Kislīmu. It seems probable that the image was identified with a deity and a constellation right from the beginning.

An early image of Sagittarius is carved on a boundary stone of the time of Melišiḫu (c.1188-1174 B.C.), now in the British Museum (90829) [63] (Pl. 42). A human torso springs from the winged body of a horse which has two tails, one a natural horse's tail, the other a scorpion's tail. The

62 P.B.Adamson, "Anatomical and pathological terms in Akkadian" JRAS 1984/IV, p.7, note 37.

63 Seidl, "Kudurru reliefs", no.12.

human head faces intently forward, sighting along the arrow poised for release on the drawn bow. Behind the human head is the head of a snarling dog, looking back towards the tail. Under the body the pincers of a scorpion appear to be reaching for the horse's genitals. A thousand years later, in the iconography of Mithraism, a scorpion would make the same gesture to the dying bull (Pls. 81, 82). On the British Museum boundary stone the centaur seems to have been already identified with a constellation. The coiled body of the sky-snake rests just over the centaur's head, and the planet Venus stands behind the wing, their presence suggesting that the centaur is in the sky.

Further examples of Sagittarius believed to be from the twelfth century B.C.[64] were found on seal impressions in the archives of the Assyrian king Tiglath-Pileser I (1114-1076 B.C.). The impressions, now in Berlin, portray a less complex Sagittarius than the Babylonian example, as the archer seems to have but one head, and the winged horse but a single tail (Figs 27, 28).

Two other examples of the centaur-archer are on boundary stones dating probably from the end of the second millenium. One is on an uninscribed stone from Babylon, now in Berlin (VA BAB 4375).[65] The Sagittarius image has the scorpion's tail and the human and canine heads (Fig. 5), but lacks wings. The second example is on a fragment of unknown provenience, now in the Iraq Museum (IM14175).[66] Here the centaur has wings and a scorpion's tail, but has a human's head without the additional dog's head (Fig. 26).

A Neo-Babylonian seal in the Pierpont Morgan collection portrays another example of the complex image. Sagittarius is wearing a high crown and has a quiver slung over his shoulder. He is winged and a scorpion's tail rises from his back, following the line of the wing feathers. His

64 A.Moortgat, "Assyrische Glyptik des 12 jahrhunderts", Zeitschrift für Assyriologie, N.F. 14, 1944.

65 Seidl, "Kudurru reliefs", no. 63.

66 Ibid., no. 27.

bow is drawn on a winged lion and the addition of a star and crescent at the top of the seal provides a consciously astral setting (Pl. 43).

Sagittarius figures from two of Babylon's neighbouring states, Urartu and Elam, are known on objects dating from the eighth and seventh centuries B.C. They were winged centaur-archers but do not have the scorpion's tail or the additional canine head behind the human head. The Urartian example is on a bronze blinker of the eighth century B.C. (Pl. 44).[67] The centaur gallops forward with drawn bow, his quarry a human-headed winged lion. The Elamite centaur is on a seal of the seventh century, just prior to the period of Achaemenid domination. It is long-legged and elegant, pursuing a lion-headed bird. A dog, perhaps relating to the canine head on the Babylonian centaurs, is placed under the horse's body (Fig. 29).

The eight examples of Sagittarius, three on boundary stones, four on seals, plus the Urartian blinker, indicate two iconographic streams which can be traced to regional differences and probably reflect variant traditions of the underlying theology. The two traditions seem to stem from Babylonia and Assyria. The Babylonian Sagittarius was a centaur-archer who had scorpion and canine attributes (Pl. 42 Figs 5 , 26). The Assyrian Sagittarius was less complex, being without the dog's head or the scorpion's tail (Figs 27, 28). The peripheral kingdoms of Urartu and Elam evidently received the image via Assyria, as their Sagittarius figures mirror the Assyrian icons. Elamite astral icons were evidently adopted by the Achaemenids as we shall find the Assyrian version of Sagittarius on Achaemenid seal impressions from the treasury at Persepolis (Pl. 58).

The plan of transmission suggested by the iconography agrees with recognized patterns of cultural influences and is compatible with the known political situation during the first half of the first millennium B.C. The two distinctive images of Sagittarius, however, can be traced further,

67 The blinker is known from a photograph which Dr.A.D.H.Bivar came across in unusual circumstances. It had been reported stolen and was the subject of a Property Inquiry Report, #179.81, circulated at JFK Airport, N.Y. Stylistically, the blinker appears to be genuine.

with more interesting results. We shall see that astral iconography was introduced to the Greeks and Egyptians probably during the Achaemenid period.[68] The Egyptians adopted the Babylonian version of Sagittarius. It was evidently assimilated into local theology, and figures of Sagittarius with a Scorpion's tail and a dog's head growing from behind the human head were to appear on the earliest known Egyptian zodiacs from the Ptolemaic period and would continue to be used until the last of the surviving examples in the second century A.D. The Egyptians apparently received this image directly from Babylonian sources, as it appears to have been used nowhere except in Babylonia and Egypt.

Not a single instance of the icon is known among Greek zodiacs, where the less complex Assyrian Sagittarius was used consistently, if we may judge from the extant sources. As the image was also used by the Achaemenid Persians, it is probable that the Greeks learned of zodiac iconography from sources under Persian influence. We shall return to this subject in later chapters (pp. 128-9).

The advent of Sagittarius may be the visual record of an historical event. The centaur-archer represents a horseman who has perfected the seemingly impossible art of simultaneously controlling a galloping mount, drawing a bow, and maintaining his balance, in a period before the invention of stirrups. Sulimirski [69] observed that the appearance of the centaur-archer in Babylonian art of the Kassite period indicates that certain nomadic peoples had mastered this technique in the latter half of the second millennium B.C., their skillful horsemanship making it seem that man and beast were a single unit. Similarly, centaurs appear in Greek art towards the end of the sixth century B.C., when the Greeks met the Scythian nomads around the Black Sea.

68 See Chs. 4 and 5.

69 T.Sulimirski, "Les archers à cheval cavalerie légère des anciens", Revue Internationale d'Histoire Militaire, XII, 1952, 448.

Little is known of the archer deity PA.BIL.SAG , the name used for Sagittarius in the astronomical texts, except as the name of the consort of Nininsina, the city goddess of Isin. [70] She was regarded as a healer, and it seems that already in the Old Babylonian period she was equated with the goddess Gula, whose animal was the dog. This may account for the dog's head growing behind the human head on Babylonian images of Sagittarius. With respect to the scorpion's tail, the constellation was sometimes referred to as the Sting of the Scorpion, [71] perhaps with reference to the archer's arrows. PA.BIL.SAG was probably an underworld deity, and if we are correct in regarding the Scales as the symbol of a judgement, Scorpio and Sagittarius were perhaps thought to be instrumental in bringing the judgement to pass.

CAPRICORN

Capricorn, ^{mul}SUḪUR.MÁŠ, the goat-fish ruled the tenth month, Tebētu. Mythologically, it was associated with Ea, appearing first on Akkadian seals, rarely at the feet of Ea, more often floating at the top of the seal among other astral symbols. The essentials of the image were fixed from the beginning. The goat's head, neck and forelegs were joined to a compact fish body, the scales, when the size of the image permitted them to be seen, extending well up to the goat's neck (Pl. 40). One foreleg was raised, the other bent under the body. It was only the goat's head and horns that offered any variety. The stability of the image suggests that the goat-fish was a constellation from the beginning, the fixed position of the stars ensuring that once the icon had evolved it would remain the same. Most notably, the position of the forelegs was constant. Two stars mark the knees and impose the condition that one must be raised higher than the other. The problem was solved iconographically by doubling one leg under the body and raising

70 W.Römer, "Religion in ancient Mesopotamia", in Historia Religionum I, 140.

71 Thompson, Reports, no.272. E.Reiner, EAE tablets 50-51, X, 20.

the other as though the animal was about to stand up, thus creating a natural and distinctive image that could be recognized immediately. On some boundary stones the fish body is hidden behind a shrine, yet the goat-fish is easily recognized by its forepart (Pl. 40). Capricorn on the kudurru is part of Ea's composite symbol, of which the shrine and goat-fish were the two most constant elements.

It has been suggested that the animal symbols of the gods may have been the gods themselves in an earlier age, [72] but this does not seem to apply to Capricorn, as Ea appeared on seals in anthropomorphic form earlier than any surviving image of the goat-fish. On early seals Capricorn was usually a peripheral figure, floating at the top of the seal at head level or above. This suggests that it was already a constellation, and therefore a deity in its own right. It could be shown with any god and Ea was not necessarily present (Pl. 48). Later, on seals of the first millennium B.C., Capricorn sometimes assumes the central position, receives the hommage of a priest (Pl. 22), or is the sole image shown (Pl. 41). This suggests a corresponding increase in the status of the goat-fish as an astral deity. Capricorn is the constellation of the winter solstice, and this may have been a factor in its rising status, as the summer and winter solstices were evidently the focus of metaphysical speculation (p. 69). Astrologically, Capricorn was the Exaltation of the planet Mars - Nergal, monarch of the Netherworld in Babylonian terms - who was thus appropriately situated in the lower hemisphere of the astral cycle. This may also have been a factor in Capricorn's increasing popularity, as Nergal himself seems to have had a considerable following.

As a constellation Capricorn seems to have governed rituals against demons, perhaps a reflection of his relationship with Ea, who was called "Lord of incantations" [73] and was thought to have taught man the knowledge

72 T.Jacobsen, The treasures of darkness, 9.

73 S.Hooke, Babylonian and Assyrian religion, 27.

of magic. Some magical ceremonies used images of Capricorn. In periods of bad omen the king was protected by a series of ceremonies that made use of a substitute monarch. At this time the palace had to be ritually purified. A text specifying the correct procedure states: [74]

> "You shall make two Capricorns of tamarisk wood holding staffs of laurel. On their left hip you shall write as follows: Depart, evil of... Enter good of dreams. You shall write this and you shall bury them in the bedchamber".

Capricorn's charge seems to have been to protect the king against evil dreams, which were a means of contact between man and the world of demons.

Images of Capricorn were evidently used as doorway guardians. A seal impression from the archive of Tiglath-Pileser I portrays an elaborate architectural structure, either a palace or a temple, with figures of Capricorn on either side of the doorway (Pl. 56), their function presumably similar to the great lions and bulls found guarding other Assyrian structures.

For the art historian Capricorn has a great advantage over the simple figures of lions and bulls, which may, or may not, represent the astral Taurus or Leo. The goat-fish is a distinctive image and probably represents the constellation in every instance. Though it is impossible to deal here with every example of an icon that survives in considerable numbers, it is worth noting that the image was already recognized beyond its Mesopotamian homeland in the nineteenth century B.C. Seals from Kültepe, Anatolia, portraying among other images representations of Capricorn and Aquarius, (Fig. 30) indicate that even at that early date Mesopotamian constellations were recognized beyond their centre of origin.

AQUARIUS

The eleventh month, Šabāṭu, was ruled by Aquarius, ^{mul}GU.LA, the "Great", perhaps referring to the magnitude of the ever-flowing waters. It did not refer to the goddess Gula, who had a constellation located more towards

74 W. Lambert, "A part of the ritual for the substitute king", AfO, XVIII, 1957-8, 111.

the north, in the vicinity of Cancer (p. 44). Aquarius, representing the source of fresh waters so vital to the maintenance of life, was portrayed in several ways. One type displayed a bearded male wearing the horned tiara of divinity, his hands clasped in front of his chest, with streams of water seeming to gush directly from his body, usually from shoulder level (Pls 17, 33). This figure probably represents the god Ea, the two streams perhaps symbolizing the Tigris and Euphrates Rivers. The water was usually stocked with fish, presumably to indicate its status as "living water". The second iconographic type was a figure, male or female, holding a perpetually flowing vase at chest or waist level (Pls 17, 29, 45). These figures are usually minor deities, but Gudea, governor of Lagaš, was also portrayed holding the vase, perhaps to suggest that his piety had encouraged the gods to provide blessings for the people he governed (Pl. 39).

Such images are known from the early Akkadian period onwards. A delightful example, now in the Louvre, is on a seal that belonged to a servant of Sargon of Agade. The vases are held by kneeling, bearded figures while bulls drink from the spilling waters with an almost exstatic pleasure (Pl. 29). The scene, well-composed and skillfully rendered, suggests prosperity and abundance, with a comfortable life for man through the fecundity of his flocks and herds.

Even in the Akkadian period the flowing vase appears on seals with a star, crescent, or other astral symbol. Like the goat-fish, the flowing vase was probably a constellation from the beginning, but the iconography was less rigid, as the figure holding the vase could be seated or standing, or kneeling, and be either male or female. This suggests that the holder was unimportant to the image, and only the vase and its waters mattered. In the beginning the constellation may have consisted only of the vase and the two streams of water, the figure of the holding deity included for decorative purposes. Indeed, unheld flowing vases are common. Waters spilling from one vase into another to form a continuous frieze, dated to the period

around 2,300 B.C. by Parrot, [75] decorated a fragment of relief from Lagaš, now in the Louvre (Fig. 31). Another unheld vase is placed at the top of an Akkadian seal, beside a sun, a crescent and a fish (Pl. 34), the latter perhaps to signify the adjoining constellation, Pisces. Female deities, youthful figures with long unbound hair, fly down from heaven with the vase on the stele of Ur-nammu, from the third dynasty of Ur, now in the University of Pennsylvania Museum (Fig. 32). In the first millennium B.C. the unheld vase was still being used, on a relief from Aššur, (Pl. 45), and on a Neo-Babylonian seal which belonged to a Nabu-naṣir (Pl. 49).

The astral vase probably had its counterpart in an actual vessel used for ritual purposes in the temple, as suggested by the following instruction for an incantation: [76]

" This conjuration recite three times over the holy water basin:
'Its ever renewing is like that of the river,
(River who renews himself constantly) ' ".

Thus it seems that the vase was more significant than the deity holding it.

Nevertheless, the constellation image that passed into the Graeco-Roman world did include the figure of a deity holding the vase. Before the middle of the second millennium B.C. the image had already spread to neighbouring states, being known on seals of Hittite,[77] Syrian (Pl. 35) and Mitannian[78] provenience. A star over each stream of water on the Syrian example indicates that the image was recognized as a constellation even outside of Mesopotamia. Of the alternative methods of portraying the vase and its deity, the form that passed into the Greek world showed a frontally posed standing male figure holding the vase in both hands at about waist level. The prototype

75 A.Parrot, Sumer, (English ed.) 1960, 196.

76 E.Reiner, Šurpu - a collection of Sumerian and Akkadian incantations, Appendix, p. 52.

77 Briggs Buchanan, Early Near Eastern seals in the Yale Babylonian collection, 1981, no. 1143, p.397.

78 Ibid., no.1272 p. 434.

of the image appears on a Mesopotamian seal of the Old Babylonian period (Fig. 33) and on the Syrian seal (Pl. 35). In the first millennium B.C. two boundary stones portray a deity holding the vase in the same formal pose (Figs 3, 34) but these late examples portray a clothed figure. A third kudurru shows an unheld vase (Fig. 35). Under Greek influence the small Mesopotamian vase would become a larger amphora, which was hoisted up on the shoulder instead of being held at waist level.

PISCES

Addaru, the twelfth Babylonian month was ruled by Pisces, ^{mul}KUN.MEŠ. Thick deposits of fish offerings in early temples at Uruk and Eridu [79] attest the economic and religious importance of fish in Mesopotamian society. Shoals of swimming fish were portrayed on Early Dynastic seals, and on Akkadian seals fish were usually associated with Ea, leaping in the waters which gush from his shoulders. Fish amulets in stone, shell, glazed terracotta or even gold [80] were popular throughout the entire period of Mesopotamian culture.

In Assyrian art of the first half of the first millennium B.C. composite fish-men began to appear on seals and reliefs. They took two forms. One kind resembled the creature generally called a "merman", the body below the waist being that of a fish, with a man's torso, arms and head above (Pl. 47). The second kind superimposed a complete fish over the body of a man, the human head immediately below the fish's head and the tail hanging behind (Pls 45, 46).

Small clay figurines of mermen, tiny but monumental in their simply modelled forms were found at Aššur (Pl. 47). Similar images, enlarged to a massive scale and cast in bronze or carved in stone relief were stationed at the gates of the temple of Nabu in Nimrūd, and in the palace of

79 E.van Buren, "Fish offerings in ancient Mesopotamia", Iraq X/2, 1948, 103.
80 Idem, The fauna of ancient Mesopotamia, 1939, 105.

Sargon (722-705 B.C.) at Khorsabad. The second kind of fish-men were mentioned by Berosus, a priest of Bēl (Marduk) who wrote a history of Mesopotamian civilization in Greek (the Babyloniaca) dedicated to the Seleucid king, Antiochus I (below, p. 119). An extant fragment of the work preserves a description of the fish-men, which tallies well with images known from seals and reliefs. According to Berosus a fish-man named Oannēs rose from the sea in the pre-diluvian period, and brought man wisdom and knowledge. Since then, according to ancient tradition, nothing worth knowing has been discovered. The description of Oannēs was as follows: [81]

> "Its entire body was that of a fish, but a human head had grown beneath that of the fish, and human feet had likewise grown from the fish's tail. It also had a human voice".

Fish-men of this type are usually shown carrying a bucket and sprinkler for lustrations (Pl. 45). Some of the examples may represent priests in ceremonial fish robes.

It has often been supposed that the constellation Pisces represented one or other of the fish-men, because of their importance in Mesopotamian art during the first millennium B.C. The intimate relationship between the constellations and Mesopotamian deities and their mythology make this a definite possibility. Fish and fish-men were the creatures of Ea, and perhaps the distinction between the two in mythological terms might be regarded as trivial. Cuneiform sources sometimes refer to the constellation by the characteristically ambiguous title of "the Tails", [82] reminiscent of referring to Virgo as "the Furrow", or the "Corn Ear". It is probable that the constellation portrayed fishes, but was also a reference to Ea and the fish-men.

In the first millennium B.C. Pisces became the astrological Exaltation

81 From the translation by S.M.Burstein, The Babyloniaca of Berosus, 1978, Prologue 5, p. 13.

82 Zibbāti, or ZIB (.ME).

of Venus. Two texts of the Old Babylonian period are said to describe Inana (an earlier name of Ištar) clad in a fish mantle, with fish as sandles, carrying a fish sceptre and seated on a fish throne.[83] I know of no visual representation of the goddess in this form, but fish do sometimes appear on seals with Ištar. If the description does indeed refer to her it would provide an adequate reason for Venus to have her Exaltation in Pisces.

* * *

An abundance of visual and literary evidence indicates that we need look no further than Mesopotamia for the origins of the zodiac. The twelve signs sprang from the rich vocabulary of Mesopotamian iconography, just as zodiacal mathematics developed from Babylonian astronomy. Aries and Virgo, whose somewhat oblique titles (the Hired Labourer and the Furrow) led to the assumption that the Babylonian zodiac differed from the Greek, can now be accepted as having maintained their original meaning in the transition from the ancient to the classical world. Virgo's identity as a grain goddess is established by the drawing of her from Uruk (Pl. 54). As for the ram, the frequency of its occurrence in Mesopotamian art, and the two cuneiform glosses which explain the Hired Labourer as the shepherd god, Dumuzi, indicate that the history of Aries is no different from that of the other zodiacal constellations.

Except for Sagittarius, Capricorn and Aquarius, which are very distinct icons and probably refer to a constellation every time they occur, the signs are seldom easy to identify. Lions and bulls, for instance, are perennial images in the arts and may or may not refer to a constellation. Verifiably astral lions and bulls can appear with, or without wings, though sometimes a clue is given by showing Taurus with the Pleiades, and Leo with Hydra. The scorpion is probably almost always astral, but the ram is another

83 E.van Buren, "Fish offerings in ancient Mesopotamia", Iraq X/2, 1948, 110.

difficulty, as in some cases it may represent an offering. When coupled with the rosette (above, p. 55) a celestial interpretation would seem more secure. Fish, grain goddesses and twin deities are also plentiful, but it is rarely possible to be certain that they represent Pisces, Virgo or the Gemini. Two signs, Cancer and Libra, although textually well attested, are rare in the arts right to the end of the Babylonian period.

The problem of identifying constellation images is due partly to the fact that it was not customary in this period, as it was later, to decorate them with stars. When stars were used they give the impression from their sparseness that every one shown had a specific meaning, perhaps as a planet, especially Venus or Jupiter, or else as some other bright star, such as Sirius.

Although many of the zodiacal images were commonplace in the arts of Mesopotamia, their precise meanings and mythologies are unknown. It is certain only that they were regarded as powerful divinities, and were the recipients of prayers and offerings. Indeed, not only the zodiacal signs, but all the named constellations were "gods of the night", who supervised the universe when the gods of the day had retired. The existence of an astral factor in Mesopotamian religion has been recognized since the first astrological texts were published towards the end of the nineteenth century, but the nature and status of the astral divinities has received little attention. Our study has shown them to be more important than has generally been admitted. The constellations were evidently thought to portray and embody the deity in a manner parallel to the temple statues, as the star-pictures were even described as "images" (p. 62). As well as showing the images of divinities the stars portrayed divine objects (e.g. Marduk's bow) associated with specific mythological events. Nevertheless, they were not merely lifeless portrayals, but like the temple statues, embodied the divine essence, and were therefore worthy of prayer, sacrifice and ritual.

A prayer addressed to the gods of the night runs:

"many are the mortal men
the persecuted, the weak, both men and women,
who run after you every day". (84

This seems to suggest that the constellations were the divinities of a popular cult rather than being part of official religion, but a great deal of other evidence proves that this is not so. That the king, himself, prayed to the constellations is known from the existence of a prayer to the constellation Orion (^{mul}SIPA.ZI.AN.NA) in the name of Aššurbanipal. Moreover, the five planets were identified with major Mesopotamian deities, indicating that the constellations were not part of a substratum cult, but an aspect of official state religion. The status of Šamaš and Sin in the Babylonian pantheon tends to confirm this, as does the fact that sons of Šamaš and members of the court of Anu were numbered among the constellations. Furthermore, naming constellations in incantations and sacrificing to them in a secret ceremony as important as the Opening of the Mouth of a new statue (p. 38) testifies that the constellations were equally recognized in the temple. Indeed, their prestige was such that their images could be used in a form of celestial writing to spell out the name of the king.

The power of the constellations was thought to influence almost every sphere of life. Even in medicine, instructions for preparing prescriptions sometimes advised that the mixture should be made ready the evening before it was to be administered and then allowed to stand under the stars over night.[85] The practice of invoking the stars to witness the land transactions recorded on boundary stones has provided an important source of information on Babylonian astral iconography, as images of the gods were portrayed on the stones. These image were sometimes identified by captions, and have the advantage of being larger than corresponding representations on the

84 L.Oppenheim, "A new prayer to the gods of the night", Analecta Biblica XII, 282-301.

85 R.Campbell Thompson, "Assyrian prescriptions for treating bruises and swellings" AJSL, XLVII, 1930, 24-25.
Idem, "Assyrian medical prescriptions against SIMMATU, 'Poison' ", Rev. d'Assyr. XXVII, 1930, 128, no. 12.

seals. The limited segment of Mesopotamian history bridged by the kudurru (c. 1400-650 B.C.) co-incided with the final stages in the development of zodiac iconography. Towards the beginning of this period one new zodiacal icon came into being. This was Sagittarius, probably the last of the twelve signs to be defined in its present form.

The increase in status noted for Capricorn during the first millennium B.C. (p. 85) may have been matched by Aries and Taurus, as figures of rams and bulls occurred with increasing frequency. This may reflect a generally increasing emphasis on astral elements in the religion, and is perhaps an indication of the evolution of new astrological doctrines, such as that of the planetary Exaltations. That Nergal, principal deity of the netherworld, was Exalted in Capricorn must have had an influence on portrayals of the goat-fish. The points of solstice and equinox also seem to have been the subject of religious speculation, and they may be represented in the images on some seals. This topic might well repay a separate investigation.

The drawings of Taurus, Leo and Virgo on the three clay tablets from Uruk raise the question of Babylonian star-maps. These drawings provide us with sections of a simple strip-map of zodiacal constellations, reconstructed in Fig. 37 , using the three extant drawings, supplemented by the description of Cancer on VAT9428 (above, p. 66). The result, though unsophisticated, stresses the relationship and order of the constellations and thus proves to be a genuine star-map, the only example known to have survived from Babylonia.

Babylonian astronomers must have used more sophisticated maps, probably made on perishable materials such as leather or papyrus, which came into use after the eighth century B.C. Extant cuneiform descriptions of the constellations suggest from their wording that the scribe was referring to a map. Of the constellation representing the goddess Gula (above, p. 44) we read that three stars are "drawn in" under the base of her throne. Her dog is sitting on his haunches. Three stars form his chest and seven stars

his tail. As for the Gemini, each has a star "drawn" on his head. The scribe's terminology certainly suggests that he is referring to a map. Professor Wiseman[86] has pointed out that reliefs of Adad-Nirari III, Tiglath-Pileser III and Sennacherib sometimes show two scribes working side by side, one with a wax tablet, the other holding a scroll. The waxed tablet was suitable for receiving the impressions of cuneiform characters, but the second scribe was probably writing in Aramaic, whose cursive form is better suited to ink on a flat surface. The same is probably true of a star-map. At Nimrud, Uruk, and Persepolis[87] many clay rings were found that had probably held scrolls, but the scrolls themselves had perished. The use of such perishable materials probably explains why no Babylonian star-maps, or even a complete set of zodiacal images has been found in Mesopotamia from before the Parthian period.

86 D.J.Wiseman, "Assyrian writing boards", Iraq XVII, 1955, 12.

87 Ibid.

PART II

THE FIFTH AND FOURTH CENTURIES B.C.

Chapter four THE ACHAEMENID EMPIRE AND THE GREEK WORLD

Some introductory remarks

Two stages can be distinguished in the early history of zodiac iconography. The first accepts all the constellations as part of the divine configuration of the heavens; the second recognizes that the twelve zodiacal constellations are vested with greater significance than the remainder because they alone are visited one after another by the divine sun, moon and planets. In the first stage the constellations may be portrayed individually, in groups, or even as a map of the entire heavens; in the second the zodiac is isolated as a cycle. With the exception of the zodiac drawings from Uruk, it was the first stage of the iconography that we examined in the preceding chapters. The idea underlying the second iconographic stage seems to have been understood for some centuries before the mathematical zodiac was constructed, and perhaps even longer before the first zodiac cycles emerged in the arts. It is the first stage that we shall encounter initially in the Greek cities, and on Achaemenid Persian seals, though an understanding of the basic concepts underlying stage two had already begun to spread abroad. During this period in Mesopotamia, non-mathematical texts giving prominence to the zodiacal constellations were being composed. These texts, which we shall examine presently, witness that the zodiac had achieved a new collective identity on a popular level, and indicate important new developments.

THE ACHAEMENIDS

Military conquests beginning in the sixth century B.C. gave the Achaemenid Persians dominion over Mesopotamia, and an empire encompassing large tracts of the ancient world. Their homeland lay within the orbit of Mesopotamian influence, so they may have been aware of many of the ideas central to this history even before the conquests, and certainly some of the familiar icons are to be found on Achaemenid seals. For

example, clay impressions of a seal with a figure of Sagittarius were found in the treasury at Persepolis (PT4 841).[1] The horse's body is winged and the legs are thrown forward in full gallop (Pl. 58). The centaur-archer's quarry, a lion as usual, is difficult to see in the impression, because incorrect rolling has placed it behind the archer instead of in front of him, but the image resembles those on the earlier seals.

A second seal from the treasury (Schmidt's PT 506), shows the goat-fish. Capricorn has one knee raised and one leg tucked under, the standard icon in Mesopotamia (compare Pls. 57 and 41). The seal belonged to Aspathines, evidently the same Aspathines who carried Darius' battle-axe and bow in the reliefs on the king's tomb.[2] From the seventh century B.C. the constellation of the goat-fish had been known as the Exaltation of the planet Mars (above, p. 33), associated with Nergal in Babylonia. For that reason the goat-fish was regarded in later centuries as a warrior's sign, of which we shall hear more later (below, Ch. 6). On the seal of Aspathines, who must have been a warrior to be holding the king's battle-axe, the deity standing on the goat-fish seems to be grasping a dagger. Another Achaemenid seal of the sixth century B.C. from the Borowsky collection[3] has a similar icon. A crowned deity raising a dagger is striding along the back of an elongated goat-fish (Fig. 39). Curiously, on both of these seals the goat-fish and deity are presented twice, as though in mirror images, reminiscent of the dualistic doctrines in Iranian religion. The deity on the goat-fish does not seem to represent the god Ea, although the goat-fish was part of his symbol on Babylonian boundary stones. Ea was known to fight with magic rather than with

1 E.F. Schmidt, Persepolis II, The contents of the treasury, Pls. 6 and 10.

2 Idem, Persepolis III, The royal tombs, 84, Pl. 24.

3 P. Amiet, L'art antique du Proche-Orient, 1977, no. 817.

weapons, and the deity here seems to be a warrior. Evidently, these two seals portray Capricorn in the astrological sense, as the Exaltation of the warrior planet Mars. Almost certainly, this icon was regarded as a warrior's symbol, even as early as the Achaemenid period.

Exchanges between one part of the Achaemenid empire and another seem to have provided the means for the spread of Babylonian astronomy and zodiac iconography. From evidence to be considered in later chapters, we shall argue that the zodiac reached the Greek world, Egypt and Palestine via three independent channels, and that this diffusion probably occurred during the Achaemenid period. This theory will be deduced from fundamental and persistent differences in the zodiac iconography of the areas in question. From the Achaemenid period itself a few additional scraps of evidence survive, which testify to the exchange of ideas. A demotic papyrus from Egypt, now in Vienna (D6286), was published by Parker[4] in 1959. It deals with Babylonian eclipse and lunar omens, and is understood to be Achaemenid. Limitations of space will prevent us dealing with the history of the zodiac in India, but it is perhaps worth noting briefly that elements of Babylonian astronomy also seem to have been transmitted to that country in Achaemenid times. Pingree[5] noted that a luni-solar calendar on Babylonian lines was propounded in the Jyotisavedânga of Lagadha, who probably wrote in the fifth century B.C. under Achaemenid occupation. No zodiac monuments of any country survive from the Achaemenid period, but it seems that at this time the underlying astronomical concepts were transmitted and the imagery made known, probably on star-maps. The zodiac was already popularly recognized when Alexander began his conquests.

4 R.A. Parker, A Vienna demotic papyrus on eclipse and lunar omina, 1959.

5 D. Pingree, "Astronomy and astrology in India and Iran", Isis, LIV, 1963, 231.

THE GREEKS

A Greek tradition which credits thinkers of the late sixth and early fifth centuries B.C., especially men from the cities of Asia Minor,[6] with the introduction of simple astronomical concepts to the Greek world, is probably based on fact. At some time during the fifth century B.C. this information must have included the names of the twelve constellations through which lay the sun's path, as they were certainly known to the Greeks at the end of the fifth century. Around this time Euctemon and Meton made their observations of the summer solstice to determine the length of the solar year, and as a result, the nineteen years intercalary cycle (Metonic cycle) was applied to the calendar of Athens in 432 B.C.[7] A knowledge of the constellations on the ecliptic, however, did not yet include the concept of a division into 360°, which according to Neugebauer[8] became available in Greek sources c. 300-200 B.C.

Around the end of the fifth century B.C. astronomy seems to have become fashionable, and Aristophanes (Clouds, 180 ff) ridicules it along with other pursuits of the new Athenian intelligensia. Plato also seems to have become increasingly interested in the heavens with advancing years, In the Timaeus (40 B) he describes the stars as "living creatures, divine and eternal", an interesting description in view of what we know of the stars in Babylonian religion, and of what we shall see in later Graeco-Roman religion. Such ideas agree with prevailing thought in large areas of the Middle East and we can probably assume that similar elements were present in the earlier teachings of Pythagoras.[9]

6 For instance, Anaximander, Cleostratus, etc. C.H. Kahn, "On Early Greek Astronomy", JHS, xc, 1970, 99-116.

7 For a discussion concerning the relationship between the Metonic cycle in Athens and the nineteen years cycle in Babylon, see O. Neugebauer, HAMA, II, 628.

8 O. Neugebauer, HAMA, II, 590.

9 D. Dicks, Early Greek astronomy to Aristotle, 1970, 72-3.

Another line from Plato (Republic, 529) is of interest in relation to the zodiac ceilings which are known from the third century B.C. onwards. Plato, reconstructing a dialogue about astronomy between Socrates and Glaucon, has the latter remark that science "compels the soul to look upward". Socrates replies that gaping up at a painted ceiling would not bring wisdom. In the context of a discussion about astronomy, presumably the reference to "painted ceilings" means that ceilings were painted with constellation figures. Such ceilings, as we shall see, are known throughout the Hellenistic and Roman periods, but antique ceilings in general are rare, and there is no direct evidence before the third century B.C. It is conceivable that such ceilings could have existed in the fifth-fourth centuries B.C. especially in the Greek cities of Asia minor. Descriptions of early ceilings painted to represent the heavens have not come down to us, but Euripides (Ion 1141) does mention a canopy set up for a banquet which was woven or embroidered with "Heaven shepherding his stars in folds of air". Euripides noted representations of the sun, moon, evening star (Venus), Pleiades, Hyades, Orion, and the Bear, but significantly, the zodiac was not mentioned. The canopy was said to have come from the East, and was described as something rich and exotic.

STAR MAPS AND THE DESCRIPTIONS OF CONSTELLATIONS

Democritus of Abdera, whose life was roughly contemporary with Plato, wrote a treatise on the constellations in the fifth century B.C. The work is known from a few fragments only, but the Roman author Vitruvius (IX, v, 4) acknowledged that his own description of the constellations was modelled on that of Democritus. Vitruvius described the constellations in relation to each other, first those to the north of the ecliptic, then those to the south. The following is a sample of the description:

> "The constellation of the Water-carrier is against the Horse's head. The Horse's hoofs touch the knees of the Water-carrier. Cassiopeia is in the middle. Rising above Capricorn are the Eagle and the Dolphin. Next is the Arrow ... " (IX, iv, 3).

If we can assume that the description by Vitruvius represents the method of organization used by Democritus, then works written a few years later by Eudoxus of Cnidus show increasing sophistication in describing celestial locations. The Phaenomena and the Mirror are thought to have been written by Eudoxus c. 370 B.C., and though there is as yet no awareness of a division of the ecliptic into 360°, the position of the constellations is described by declination, i.e., distance from the celestial pole. This form of astronomical measurement had also been used in Mesopotamia prior to the division of the ecliptic circle into degrees.

On a celestial map, the basic declination lines are the celestial equator, and the tropics of Cancer and Capricorn. Eudoxus described the position of the constellations by noting which part of them passed over these fixed, though imaginary, lines. His work is no longer extant, but is known from later authors, principally, Aratus and Hipparchus, to be discussed below. Hipparchus, writing c. 150 B.C., transcribed Eudoxus' method of recording the position of the constellations:

> "As regards the stars that move on the summer and winter tropics, and also on the equator, Eudoxus says as follows with respect to the summer tropic, 'There are on this the middle section of the Crab, and the longitudinal part of the body of the Lion, a small part of the upper section of the Virgin, the neck of the gripped serpent, the right hand of the Kneeler (i.e. Heracles), the head of Ophiuchus, the neck of the bird (Cygnus), and its left wing, the feet of the horse (Pegasus), ... '" 10

The description clearly represents a gain in precision. It does, however, presuppose that the constellation figures are known to the reader, and can be recognized as images or star-groups. To be useful, the description needs to be illustrated, and indeed, descriptions surviving in later manuscripts were illustrated. From Plato's remark (above, p. 101) we may deduce that the constellations were sometimes painted on ceilings,

10 Translation from D. Dicks, Early Greek astronomy to Aristotle, 158.

and some ceilings may have been treated as maps, complete with declination circles.[11] Among astronomers we may be reasonably certain that maps existed, and that these were becoming increasingly sophisticated. Eudoxus is said to have constructed a celestial globe (Cicero, De Rep. I, 22), of which we can probably gain some idea from the Farnese globe (Pl. 62). His interest in explaining celestial movement in terms of the circle and the sphere was to lead Greek astronomy into new paths.

Plato seems to have had either a map or a celestial globe in mind when he noted (Timaeus 40 C) that the stars have conjunctions, oppositions, and so on, but remarked that to describe these things without the inspection of models would be labour in vain.

By c. 330 extant treatises on mathematics and astronomy by Greek authors such as Euclid and Autolycus treat the zodiac as a well-known concept,[12] reflected apparently by a wide interest on a popular level.

THE CONSTELLATIONS IN GREEK ART

Pausanius (X, 9, 7 ff) mentioned that after the battle of Aegospotami in 405 B.C., Lysander set up thirty-seven statues at Delphi, including statues of the Dioscuri. These images were apparently decorated with golden stars, as Plutarch (v. Lys. XVIII) says that the stars disappeared just before the battle of Leuctra. Presumably, the golden stars were placed over the head of each twin, as that is how the Dioscuri are shown on a fourth century coin from Tarentum[13] and on early Hellenistic coins from a large number of sites (below, p. 120).

11 A domed ceiling painted with a celestial map on a grid of declination circles and lines of longitude has survived in an early Islamic building from the beginning of the eighth century A.D., and will be examined in Ch. 16.

12 O. Neugebauer, HAMA, II, 593.

13 Mattingly and Robinson, "The date of the Roman denarius. Appendix III, The Dioscuri as a coin-type", Proc. Br. Acad. XVIII, Pl. 1.

Euripides, too, confirms that the Dioscuri were equated with stars in the fifth century B.C. In Helen (140), written in 412 B.C., Teucer reports to Helen on the fate of the Dioscuri:

"In fashion made as stars, men name them gods".[14]

Thus, as early as the fifth century B.C., the Dioscuri were regarded as a constellation and shown iconographically with stars over their heads. This is an exact parallel to a description of the constellation Gemini, given on a cuneiform tablet found at Aššur (above, p. 62). According to VAT 9428 each twin had a star on his head. The similarities in the descriptions cannot be coincidence. It is evident that the Greeks were aware, not just of the zodiac, but of the iconographic forms of the constellations, before the end of the fifth century B.C.

THE RUVO VASE

Two extant objects of the Greek minor arts warrant individual consideration. One is a vase of the fourth century B.C. from Ruvo, now in Naples.[15] The decoration shows a sphinx discoursing with Atlas, who supports on his shoulders a globe marked with the oblique lines of the ecliptic. Three signs, perhaps Pisces, Aries and Taurus can be discerned, and beyond the ecliptic is a scattering of stars (Fig. 42). The vase has been extensively restored and only a close examination could show how much is genuine.

By the fourth century B.C. the image is not impossible, though other Greek evidence from the period suggests that the tendency was still to integrate the zodiac with the rest of the constellations, rather than to

14 Trans. A.S. Way (Leob).

15 DS I, 487, Fig. 576.

isolate it artificially. Surviving descriptions of the stars from this period do not stress the zodiacal constellations, or even describe them consecutively. This was still true of the poem composed by Aratus a century later, though the concept of the zodiac as the sun's path was discussed. Presently we shall see textual evidence of developments that had occurred in Mesopotamia which would bestow added importance on the zodiac, lending it a mystique that would cause it to be emphasized above the other constellations. By the fourth century B.C. an iconography stressing the zodiac alone probably already existed in Mesopotamia, and the vase painters of Ruvo may have been aware of it. Nevertheless, the half-sphere cut off by the top of the vase on the Ruvo painting is reminiscent of another painting on a red-figure amphora from Campania dated to c. 450 in the British Museum.[16] A celestial sphere cut off towards the middle by the top of the vase, is supported by Hercules. The zodiac was not portrayed, but a crescent moon and two giant stars cover the half-sphere (Fig. 42a). One wonders if the sphere on the Ruvo vase was similarly decorated before restoration. If the zodiac is part of the original painting, the vase has the earliest surviving portrayal of the ecliptic belt, shown in a manner that would become familiar in the Roman period. It must, however, remain problematic until the extent of the restoration can be established by a thorough physical examination.

THE NEW YORK SAGITTARIUS GEM

The second object is an agate gemstone of Greek workmanship with a figure of Sagittarius, attributed to the mid-fifth century B.C. The stone, now in the Metropolitan Museum, New York, is flat but may have been cut down from a scarab, and has the hatched border typical of fifth century gemstones. The centaur-archer gallops forward with bow at full draw.

16 B.M. Cat. of Vases, F 148.

The horse's body and man's torso have been well modelled to show details of musculature. In Mesopotamia Sagittarius is winged, but on the Greek gem the wings have disappeared and been replaced by a panther skin, knotted across the chest and fluttering behind (Pl. 59).

Centaurs appear in large numbers in Classical art, armed with clubs, staves, javelins, tree branches and rocks, but never with the bow and arrow. The image is certainly Sagittarius. We have already noted another constellation, the Dioscuri, in Greek art of the fifth century B.C., and it is clear from other sources that the constellations were familiar. The Sagittarius, however, does raise some interesting questions. Surrounding the body of the centaur are five stars, apparently representing the major stars of the constellation, marking the feet, body, tail and cape. Such images are rare, the earliest near parallel in Greek art being the relief of Leo on Nimrud Dagh, which included the nineteen stars of the constellation (below, p. 133). This image was created four hundred years later, in the first century B.C. In the earlier period we have noticed the Mesopotamian practice of representing the Pleiades as a group of seven stars, and also the Greek images of the Dioscuri, whose head stars were a standard part of their iconography. Neither of these examples is quite the same as combining image and constellation stars. The Sagittarius figure suggests that this combination must have occurred very early, perhaps on lost star-maps.

Moreover, there is the question of why the Sagittarius gem was cut. The most obvious reason for having a single zodiacal figure on a gemstone is as a horoscope, yet horoscopy seems to have been at a very early stage of development in the fifth century B.C. and there is no evidence of a Greek interest in the subject before the third century B.C. Iconographically, the Sagittarius gem might be expected some three hundred years later than the fifth century date indicated by its technical qualities,

yet although it has no early parallels, the fifth century date is certainly not impossible. The East Greek source suggested for the gem by Professor Boardman[17] would provide a reasonable solution to the problem, as it would allow the owner the possibility of having had personal experience of Babylonian horoscopy, even at such an early date.

MESOPOTAMIA: THE FIRST HOROSCOPES AND EARLY ASTROLOGY IN CUNEIFORM SOURCES

Under Achaemenid rule, the Babylonian priest-astronomers and diviners were apparently allowed to continue their researches, due, no doubt, to the perceived value of their work in social and religious terms. The same was apparently true under the Seleucids. Even when the population of Babylon was moved to Seleucia, the astronomers must have been allowed to remain, as Pausanius (I, 16, 3) mentioned that the "Chaldeans" had been left in their quarters around the Temple of Bēl. Numerous cuneiform astronomical texts in modern museums from Seleucid Babylon confirm his observations.[18]

An event of fundamental importance to the history of the zodiac, the development of personal horoscopy, occurred in Achaemenid Babylon. The earliest known horoscope is found on a cuneiform tablet in the Bodleian Library (AB251), translated by Sachs[19] as follows:

> "month, Nisannu, night of 14th. Son of Shuma-usur, son of Shuma-iddina, descendant of Dēkē, was born. At that time the moon was below the horn of the Scorpion, Jupiter in Pisces, Venus in Taurus, Saturn in Cancer, Mars in Gemini, Mercury which had set [for the last time] was (still) in(visible). (month) Nisannu, the first (day of which followed the 30th day of the preceding month) (the crescent having been visible for) 28 ... The 27th was the-day-when-the-moon-appeared-for-the-last-time. [Things] will (?) be good before you. Month Du'uz, Year 12".

17 In answer to a personal query from Dr. Bivar. My sincere thanks are due to Professor Boardman for his kindness.

18 O. Neugebauer, ACT, I, 1955, 6.

19 A. Sachs, "Babylonian Horoscopes", JCS VI, 1952.

From the astronomical data, Sachs dated the horoscope to 29 April, 410 B.C. The format is simple, though it is recognizably a horoscope, in that a prediction for the future of an individual was based on the position of the sun, moon and planets among the zodiacal signs at the moment of birth. There is no apparent reference to the complex doctrines found in later Hellenistic and Roman manuals describing astrological techniques, though as we shall see presently, such appearances can be deceptive.

The next oldest group of horoscopes, also on cuneiform tablets, dates to the third century B.C. Two from Uruk are in the Morgan Library collection, and two from Babylon in the British Museum. Astronomical datings were given by Sachs as follows:

MLC1870, from Uruk, 4 April, 263 B.C.;

BM33667, from Babylon, 15 December, 258 B.C.;

MLC2190, from Uruk, 3 June, 235 B.C. (cast for a man with a Greek name, Aristokrates);

BM33741, from Babylon, 3 July, 230 B.C.

Sachs observed that these early horoscopes had "considerable fluidity of form". Only one (MLC2190) gave planetary positions in exact degrees of a sign. Another (MLC1870), of interest in later chapters because of comments by Vitruvius (below, p. 152) and a horoscope cast for the Roman Emperor Augustus (Ch. 6), gave details relating to conception as well as to birth. The horoscopes from Uruk apparently made use of mathematical ephemerides, a normal practice in later centuries among Greek and Roman astrologers, and still used today.

A formula found in Greek astrology, and always presumed to be of Greek origin, is known on a cuneiform text dated epigraphically to the Achaemenid period by Neugebauer and Sachs.[20] The "Dodekatemoria places" gave a

20 O. Neugebauer, A. Sachs, "The dodekatemoria in Babylonian astrology", AfO XVI, 1952-3, 65-66.

method of calculating a point, B, on the ecliptic circle from a known point A (see Appendix A10). Such a doctrine is not obvious in any of the cuneiform horoscopes preserved, yet does not seem to have any application outside astrology.

The question of what degree of complexity had been achieved in horoscopy by the end of the fourth century B.C. is of some interest. The existence of a doctrine such as the dodekatemoria places suggests that it may already have been more complex than has previously been suspected. Two other doctrines, so basic in Graeco-Roman astrology that no astrologer would fail to take them into account, are also found in cuneiform sources before the end of the Achaemenid period. One is the planetary Exaltations (Appendix A2), known from a tablet of the seventh century B.C. (above, p. 33). The second is the doctrine of planetary Aspects, which we shall see now in a recently published text from the British Museum (BM36746). Rochberg-Halton[21] dated the tablet to the Achaemenid period, noting that the logographic forms used for the names of the constellations are closer to the forms known from ^{mul}APIN than the abbreviated Seleucid forms.[22] The text deals with lunar eclipse omens, taking account of the zodiacal sign in which the eclipse occurs, and the presence (or absence) of beneficent or maleficent planets in other specifically named signs. These signs bear a constant geometric relationship to each other. If the moon is eclipsed in sign A, and Jupiter or Venus (is/is not) with it in the same sign, and Saturn or Mars stand in signs B or C, certain events will occur. The key to the text is that the three signs named form Triplicities, each being separated from the others by three signs

21 F. Rochberg-Halton, "New evidence for the history of astrology", JNES 43/2, 1984, 11-140.

22 Ibid. 119 for a comparative table. Rochberg-Halton proposed a date after 400 B.C. because of the presence of the zodiac, and as the latter was evidently in use by 475 B.C. (above, p. 21) this seems reasonably conservative.

(Appendix A4). The eclipsed moon (supported or not supported by Jupiter or Venus) is opposed from the powerful trine position by a maleficent planet.

The predictions given in BM36746 are concerned with the fate of nations rather than with individual horoscopes, but the text illustrates concepts that were to be fundamental in Graeco-Roman astrology. Of primary importance is that planets could aid or oppose each other, and that in such a trial of strength the relative positions of each were of vital importance. In this case we find the moon eclipsed (and therefore weakened) opposed by a maleficent planet. The situation improves if a beneficent planet stands with the moon to support it. We shall quote one example of the omen (Obv. lines 10-11) omitting the lengthy prediction that follows.

> "If the moon is eclipsed in Virgo and [finishes the watch] and the south and east winds blow, Venus is not visible in its eclipse ... [...] Saturn and Mars [...] ... in Taurus or Capricorn are visible ..."

According to Ptolemy (Tetrabib. II, 3), Virgo-Capricorn-Taurus is the south-eastern triangle, whose rulership lay with Venus, so the question of her presence with the moon would undoubtedly have been thought important. For our study of the zodiac, the crucial point is that in the Achaemenid period a doctrine already existed which divided the signs into triplicities, and recognized the trine Aspect between planetary bodies as particularly powerful. Whether these concepts were applied at that early stage to birth horoscopes becomes a question of some interest.

The cuneiform horoscope of 410 B.C. (above, p. 107) gives an impression of simplicity. It mentions names, dates and positions of planets, then ends with a brief prediction for a good life. There is no observable evidence of complex doctrines such as the Trines, the Exaltations, the Dodekatemoria places, known now to have existed in the Achaemenid period.

Before deciding whether the early horoscopes are innocent of these complications, we shall look at a much later Graeco-Egyptian example, dated 2 October 4 B.C.[23]

"Year 27 of Caesar (Augustus)
Phaophi 5, according to the Augustan calendar
about the third hour of the day.
Sun in Libra
Moon in Pisces
Saturn in Taurus
Jupiter in Cancer
Mars in Virgo
[Venus in Scorpio]
[Mercury in Virgo]
[Scorpio is rising]
[Leo is at midheaven]
[Taurus is then] setting.
Lower midheaven Aquarius.
There are dangers:
Take care for forty days
because of Mars."

The reasoning behind the simple prediction is not given. Without the extant Graeco-Roman literary sources we could not guess from this horoscope the great complexity of the astrology of the period. The literary sources, however, do exist, and Neugebauer and van Hoesen investigated the horoscope to check the prediction. They found that Mars was in trine with the Descendant, and in sextile with the Ascendant, while the Lot of Fortune (calculated from the positions of the sun and moon) was in the Locus of Bad Fortune (calculated from the Ascendant). The planet's motion would carry it out of the sign in forty days. It seems that the apparent simplicity of the record is no guarantee that the underlying doctrine lacks complications.

The cuneiform horoscopes may also conceal complex doctrines, and though further evidence would be helpful for the earlier period, we may be reasonably confident that by the third century B.C., the period of the next four examples, personal horoscopy had become increasingly complex.

23 O. Neugebauer, H. van Hoesen, Greek horoscopes, 17 (P. Oxy. 804).

There is still much to learn about the early period of horoscopy, but the evidence as it stands offers a few clear pointers. Personal horoscopes were a Babylonian invention, and were being cast before the end of the fifth century B.C. Several astrological doctrines, including the Exaltations, Triplicities, planetary Aspects, and the Dodekatemoria places, previously thought to have originated in the Hellenistic period, were already known in Achaemenid Babylon. By comparison, the earliest extant Greek horoscope dates to the first century B.C., though in the next chapter we shall examine evidence suggesting that Greeks did begin to take an interest in the subject from the third century B.C.

One further point needs to be made. A birth horoscope implies a belief that the fate of an individual is fixed by celestial forces at the moment of birth. This is usually thought to have been a Greek idea, and those discussing Mesopotamian omen literature usually stress a Mesopotamian belief which held that dangers threatened by bad omens could be averted by propitiatory rituals. This is a very different concept from that implied by the birth horoscopes, and it is possible that Mesopotamian religion had been undergoing evolutionary changes[24] during the first millennium B.C., perhaps associated with the upsurge of interest in astronomy and the increasing emphasis on astral elements in the religion.

Two further cuneiform texts (BRLM IV, nos. 20 and 19) in Berlin[25] may occupy us briefly because they illustrate another way in which the zodiac was used. In substance, the texts list a range of incantations for various purposes, e.g. to break a spell, to gain the love of a woman, to gain the love of a man, and so forth. For each incantation one or two zodiacal signs were mentioned which were evidently thought to be sympathetic to the object of the incantation. For the best results,

24 This is also suggested by other evidence, the rise of Nabu, for instance.

25 A. Ungnad, "Besprechungskunst und Astrologie in Babylonien", AfO 14, 1944, 251-284.

one apparently performed the incantation when the moon was in the recommended sign. Ungnad dated the copies to the Seleucid period, but noted that they go back to older originals. Diversifying the ways in which the zodiac was used would increase its significance and popularity, and helps to explain the emergence of zodiac cycles in the arts.

* * *

The two centuries of Achaemenid domination witnessed the final stage in the evolution of the mathematical zodiac, the emergence of personal horoscopy, and the first stages in the diffusion of Babylonian astronomy to other parts of the ancient world.

Basic astronomical concepts such as the obliquity of the sun's path began to filter through to the Greek world via the cities of Asia Minor towards the end of the sixth century B.C. and by the end of the fifth century Greeks were familiar with astronomy of the order described in the mul APIN texts, e.g. the names and rising times of constellations, the use of gnomon shadows to determine the points of solstice and equinox, and the names of the constellations in the path of the sun, moon, and planets. As yet the information did not include the mathematical divisions of the zodiac, which after all, was still a recent scientific discovery, even in Babylon, and does not seem to have been known abroad until the Hellenistic period. By the early fourth century B.C. mathematicians such as Eudoxus were beginning to construct new theories on the inherited material, thus opening an independent path for the future of Greek science.

By the end of the fifth century an interest in astronomy had apparently become fashionable among educated Greeks, who were evidently aware of the images associated with the major star-groups. It seems probable that treatises on the stars, such as those written by Democritus and Eudoxus,

were illustrated, and that ceilings painted with the constellations were also known. The evidence suggests that at this stage the zodiac was not isolated from the other constellations in the Greek arts, though this may have already happened in Babylonia, where the invention of new uses for the zodiac, including personal horoscopy, was investing the twelve zodiacal constellations with an added mystique.[26] It is worth mentioning that zodiac iconography does not depend on the evolution of a mathematical zodiac, divided into equal signs and calibrated into degrees. Indeed, these mathematical facts were probably of concern to a relatively small number of people until well into the Hellenistic period. To enter the arts the zodiac only needed to be understood on a popular level as the special path of the gods, and as an instrument of destiny. The zodiac of equal signs does not seem to have emerged in the arts until the Roman period.

For zodiac iconography, we may liken the fifth and fourth centuries B.C. to the beginning of an agricultural cycle; the ground has been ploughed and the seed sown. The Hellenistic period would witness the ripening of the crop, and the Roman period provide the exceptionally rich harvest.

26 With reference to the astrological doctrine of Triplicities, discussed above, p.109 , it is worth mentioning that an early interest in the properties of triangles is attested by a cuneiform text (Plimpton 322) of the Old Babylonian period (first half of the second millennium B.C.) which deals with "Pythagorean" triangles. See D.de Solla Price, "The Babylonian 'Pythagorean Triangle' tablet", Centaurus X, 1964, 219-231.

PART III

THE HELLENISTIC PERIOD

Chapter five THE HELLENISTIC PERIOD

Introduction: ALEXANDER IN ASIA

For a brief space of time the conquests of Alexander united the civilized world under Greek rule. Although the empire began to fragment soon after the death of its founder, Greek monarchies were established from Egypt to Bactria, opening the way for the fertile exchange of ideas that would enrich the culture of succeeding centuries in both east and west. An action performed by Alexander near the beginning of his career, though trivial in itself, was to have an impact on later zodiac iconography. According to Arrian (I, 11-12), when Alexander first set foot in Asia (334 B.C.) he honoured the grave of Achilles and then went to sacrifice in the temple of Athena at Troy. Here he dedicated his full armour, and "took down in its place some of the dedicated arms yet remaining from the Trojan war". It was said that henceforth this armour was carried before him into battle. Arrian does not expressly say that the armour had reputedly belonged to Achilles, but the legend that this was so persisted and was to have a bearing on the arts in later years. We shall return to the incident in the next chapter.

THE ZODIAC AND THE HELLENISTIC KINGS; THE THIRD CENTURY B.C.

The first recorded evidence of the full zodiac cycle in the Greek visual arts was on a garment belonging to Demetrius Poliorcetes (334-283 B.C.), the son of Alexander's general, Antigonus Monopthalamus. Demetrius, physically attractive and liking fine clothes, wore an eye-catching chlamys, which was described by Athenaeus (XII, 535) on the authority of Duris of Samos:[1]

> "His short cloaks were dark and sheeny, the whole of them being woven with golden stars and the twelve zodiacal signs."

1 My thanks to Dr. A.D.H. Bivar for translating these lines.

Demetrius, a man subjected to sudden changes of fortune, had brief mastery over an Asian and Greek empire. Athenaeus (XII, 536) mentions a painting showing Demetrius riding on the inhabited world, displayed on the proscenium in Athens during a festival in his honour. The use of that iconographic theme plainly indicates that the zodiac on his chlamys was not mere decoration, but a similar expression of his temporal power. Prior to Demetrius the constellations do not seem to have been used by the Greeks as an expression of authority, but Demetrius had been twice to Babylon on missions for his father, once in 317 B.C. and again in 312 B.C. In Mesopotamia, as we have seen, constellation images were a part of royal iconography. Evidently, Demetrius had adopted the idea for his own use. Later Hellenistic monarchs followed his example, each exploiting and adding to the zodiac's prestige as a royal emblem.

The son of Demetrius Poliorcetes, Antigonus Gonatus (319-239 B.C.) was the patron for whom a famous astronomical poem was composed, the Phaenomena by Aratus, written in 275 B.C. The poem deals with the constellations in general, describing their relative positions and giving a mythological history. Aratus apparently based his material on the work of Eudoxus, but dispensed with the celestial mathematics to create a poem that was to become both popular and influential. A Latin translation by Cicero c. 60 B.C. increased its readers, the poem becoming in time a standard classroom text for the study of astronomy in both Greek and Latin. Extant copies are medieval, and although the illustrations reflect the period of their western, medieval copyists, some still bear traces of their Greek origins. Such manuscripts, however, are historically and geographically beyond the scope of this study.

The speed with which Aratus' poem circulated through the Greek world is an indication of the interest generated by his subject matter. Already in the third century B.C. Attulus of Rhodes, and Sudines in

Pergamon had composed commentaries on it,[2] and in Italy Leonidas of Tarentum had penned an appreciative epigram:[3]

> "This is the book of the learned Aratus, whose subtle mind explored the long-lived stars, both the fixed stars and the planets with which the bright revolving heaven is set. Let us praise him for the great task at which he toiled, let us count him second to Zeus, in that he made the stars brighter."

Sudines, known as a "Chaldean diviner", was a close friend and adviser to Attalus I of Pergamon (269-205 B.C.). Apart from writing a commentary on the Phaenomena of Aratus, Sudines was said to be an authority on gems (Pliny NH 9, 56, 115; 36, 7, 9), and an astronomer of some repute, whose lunar tables were still being used by Vettius Valens in the second century A.D. (Anthol. 9, 11). Attalus, in having a "diviner" at his court had adopted a practice common among the kings of Mesopotamia (above, p. 27f). Other Hellenistic monarchs, followed in later centuries by the Roman emperors and the rulers of medieval Europe and medieval Islam, were to continue the tradition. For more than two thousand years after the fall of Babylon, few courts would have been without one or more astrologers. Some of them, like Sudines, seem to have been men of considerable personal ability.

At Pergamon the interest in astrology evidently continued, as two fragments of a marble relief showing zodiacal signs were found on the site. One piece with a ram and a bull is still at Pergamon; the other, with Scorpio and Sagittarius, is in the Pergamon Museum, Berlin.[4] The

2 Other notable commentaries were by Hipparchus and Geminus of Rhodes. Hipparchus (c. 150 B.C.) compared the Phaenomena of Aratus with the original work of Eudoxus, pointing out common errors that had become apparent in his more advanced period. Aratus was also portrayed in mosaics and paintings, see H. Ingholt, "Aratos and Chrysippos on a lead medallion from Beirut", Berytus 17, 143-178.

3 Greek Anthology 9, 25 (Loeb).

4 F. Winter, Altertümer von Pergamon VII/2, 1908, No. 3886, 389. I know of no published photos of these fragments.

relief may not date to Sudines' time, but must have been completed prior to the mid-second century B.C.

In Egypt during the third century B.C. the Hellenistic monarchs seem to have been equally interested in the constellations. An amusing anecdote with an astral element is told about Ptolemy III Euergetes, who ruled Egypt 246-221 B.C. When he invaded Syria his wife, Berenice, dedicated a lock of her hair in the temple of Arsinoe for his safe return. Ptolemy, returning, demanded to know what had happened to his wife's tresses. He was taken to the temple, but they had miraculously disappeared. The astronomer, Conon, claimed that they had been raised to heaven, and pointed them out as a constellation of tiny stars, still named coma Berenices on star-maps.[5] The story is one more illustration of the widespread interest in the stars among the educated and powerful in the third century B.C.

In Syria the Seleucid kings apparently shared the prevailing interest in astral matters. Berosus dedicated the Babyloniaca to Antiochus I (280-261 B.C.). The work is lost, known only from twenty-two fragments quoted by other ancient authors, of which eight deal with astronomy or astrology.[6] Around 270 B.C. Berosus is said to have established a school at Cos, where astrology seems to have been part of the curriculum. Vitruvius (IX, 6, 2) mentions two men who followed his methods, Antipater and Achinopolus (or Athenodorus). The latter was associated with a method of casting horoscopes from the time of conception rather than the hour of birth. This technique also appears in one of the cuneiform horoscopes from Uruk (above, p. 108) cast for 263 B.C. and seems to have continued in use until the Roman period (below, p. 152).

5 Justinus, 26, 3.

6 A reluctance among some modern scholars to admit that the study of astrology attracted intellectuals in ancient times has led some editors to relegate the astronomical and astrological fragments to "Pseudo-Berossus".

In the third century B.C. Seleucid kings issued coins bearing a pair of astral divinities - the Dioscuri. The statues and descriptions of the Dioscuri in the fifth and fourth centuries B.C. have already been noted (above, p.103) in relation to the cuneiform description of the twins on VAT9428 (p.62). Coins of Antiochus II (261-246 B.C.) and Seleucus II (246-226 B.C.), also portrayed the Dioscuri with stars over their heads.[7] Eratosthenes of Cyrene (c. 275-194 B.C.) identified the Dioscuri with Gemini (Catast. 10) thus confirming that the stars were still an intentional allusion to the constellation, and not a matter of convention. Indeed, a monument from Olbia of the third-second century B.C. shows only the two caps of the Dioscuri with their starry crests.[8] The same motif appears on a coin of Demetrius I (162-150 B.C.) this time with the caps enthroned.[9] Apparently the starry caps were characteristic attributes, sufficient in themselves to identify the twins. The emphasis on the caps with their stars confirms that the Dioscuri were identified with the zodiacal Gemini, and illustrates the continuity of the motif from its Mesopotamian origin.

During the third century B.C. the Dioscuri with stars over their heads appeared on coins of Tarentum, Paestum, Brettii and Syracuse[10] as well as on the Seleucid coins already mentioned. In the second century B.C. they are shown on coins of Rome, Syria, Bactria, Pergamon and Parthia,[11] and had a cult at Olbia, though inscriptions are more common in the Roman period.[12] They were regarded as saviours, especially of

7 Mattingly and Robinson, "The Date of the Roman Denarius and other landmarks in early Roman coinage. Appendix III, The Dioscuri as a coin-type". Proc. Br. Acad. XVIII, Pl. 1.

8 J.M. Hirst, "The cults of Olbia", JHS, XXIII, 1903, 43.

9 W.W. Tarn, The Greeks in Bactria and India, 1951, 204.

10 Mattingly and Robinson, op. cit.

11 Ibid.

12 J.M. Hirst, "The cults of Olbia", JHS XXIII, 1903, 43.

endangered mariners or soldiers, but later they seem to have had a funerary significance. The Dioscuri/Gemini maintained an individual importance apart from their place in the zodiac. Evidently, they are a Hellenistic parallel to the constellation divinities of the earlier Babylonians and Assyrians.

One more Hellenistic monarch, Antiochus I of Commagene, is of concern to our theme, but we will return to him below, in the section dealing with astrology (p.133).

THE ZODIAC ABOVE

In ancient times the sky was thought to be a solid substance. Mesopotamian sources describe it as lapis lazuli or jasper;[13] Iranian sources mention bloodstone or emerald,[14] and an early Greek philosopher suggested a crystalline form.[15] The solid sky on which the stars took their courses covered the earth like a ceiling, and in obvious parallel, zodiacs were represented on the ceilings of buildings. Several zodiac ceilings are known from the Hellenistic period, but before discussing them, we must mention another "overhead" zodiac, encircling the hat of the philosopher Menedemus, who flourished in the third century B.C. Diogenes Laertius (VI, 102) says that Menedemus went about dressed as a Fury, claiming to have come from Hades and promising to return there to report to the powers below on what he had seen. His clothing was described as

> "a grey tunic, reaching to the feet, about it a crimson girdle; an Arcadian hat on his head with the twelve signs of the zodiac inwrought on it; buskins of tragedy; and he wore a very long beard and carried an ashen staff in his hand".

13 R. Campbell Thompson, A dictionary of Assyrian chemistry and geology, 1936, 75.

14 M. Aga-Oglu, "The origin of the term mīnā and its meanings", JNES V 1936, 245, 247-8.

15 Empedocles suggested that the heavens were made of compressed air rendered crystalline by fire (Aëtius, A51). See D.R. Dicks, Early Greek astronomy to Aristotle, 1970, 55.

Evidently, Menedemus was using the zodiac to symbolize his claims of a return to Hades. The constellations are seen overhead, but for a part of each year they sink below the horizon to the netherworld. Diodorus (II, 30, 6 and 31, 4) mentions a doctrine which he attributes to the Chaldeans, where thirty fixed stars are designated "counselling gods". At any time half the number should be visible in the sky, and the rest below the horizon, i.e., in the netherworld. Every ten days they exchange messengers, a star from below rising above the horizon, and a star from above sinking down to the netherworld:[16]

> "Under the course in which the planets move are situated, according to them, thirty stars which they designate as "counselling gods"; of these one half oversee the regions above the earth, having under their purview the affairs of mankind and likewise those of the heavens; and every ten days one of the stars above is sent as a messenger, so to speak, to the stars below, and again in like manner, one of the stars below the earth to those above, and this movement of theirs is fixed and determined by means of an orbit which is unchanging forever.
>
> "Beyond the circle of the zodiac they designate twenty-four other stars of which one half, they say, are situated in the northern parts and one half in the southern, and of those which are visible they assign to the world of the living, while those which are invisible they regard as being adjacent to the dead, and so they call them "Judges of the Universe."

The claims of Menedemus that he had come from, and would return to Hades, and his affecting a zodiacal hat, suggests that he was aware of a doctrine of this kind, and that his preaching was based on comparable ideas. That he chose to display the zodiac on his hat, and not in some other way (on his cloak, for instance, as Demetrius Poliorcetes had done) is significant, as it is clearly a punning allusion to the zodiac being overhead. The pun would only be effective if his audience were already familiar with zodiac ceilings, which, as we shall see, was probably the case.

16 Loeb trans. by C.H. Oldfather.

ZODIAC CEILING, TEMPLE OF KHNUM, ESNA

Only one Hellenistic zodiac ceiling is extant, but two others, since lost, were described and drawn by nineteenth-century travellers. The oldest of the three, from the third century B.C., belonged to the Temple of Khnum at Esna. It was dated by inscription to the reigns of Ptolemy III Euergetes (246-221 B.C.) and Ptolemy IV Philopater (221-203 B.C.), though no king was mentioned on the ceiling itself, and it has been suggested that it might be later than the rest of the building. In view of the interest in the constellations demonstrated by other Hellenistic monarchs of the third century B.C., however, there seems no reason to doubt that the building and its ceiling were constructed together. The zodiac was lost when the temple was partially dismantled in 1843, and its stones used to build a canal. Descriptions and drawings by Lepsius[17] and Letronne[18] show that the zodiac was in two strips, each with six signs. The planets, represented as Egyptian deities, are shown in their Exaltations, Venus as a male deity in Pisces. Zodiac constellations are similar to those at Dendera, to be discussed next. Other constellations and mythological figures appear among the signs, and the Egyptian decans, to be discussed shortly, are shown in registers above and below.

CIRCULAR ZODIAC, TEMPLE OF HATHOR, DENDERA

The zodiac from the Temple of Hathor at Dendera, fortunately still extant, is late Ptolemaic. The iconography is a mixture of Egyptian and Babylonian elements. Egyptian star-maps from as early as the twelfth dynasty[19] define the polar constellations as the Foreleg (of an ox) and

17 K.R. Lepsius, Die chronologie der Aegypter, 1849, 63.

18 E. Fagnan, Oeuvres choisies de A.J. Letronne, 1881, ser. 2, vol. 2, Pl. IV.

19 A. Pogo, "Astronomical ceilings on the coffins of Heny (XII dynasty) Isis XVIII/1, 10.

a Hippopotamus, standing upright. On the Dendera map, these traditional polar constellations are placed at the centre, and around them the alien images of the Babylonian zodiac are arranged correctly off-centre, with Cancer, the most northerly of the zodiacal constellations closer to the pole than Capricorn, the most southerly. Human figures have been Egyptianized in clothing and body position, adopting the conventional profile view of head and legs with the frontal view of chest and shoulders. Aquarius wears the white crown and pours water from two vases; Virgo carries her ear of grain, and the Gemini have become the Egyptian deities, Shu and Tefnut (Pl. 60).

The three images that most clearly show their Babylonian origins are Leo, Sagittarius and Capricorn. The Egyptian constellations did not include Hydra, the great serpent-dragon, nor was it a part of the zodiac, yet apparently Leo's association with Hydra was mythically important (above, p. 71). The Dendera zodiac unites them into a single icon, though Hydra was greatly reduced in size. This composite image of Leo and Hydra continued to be used in Egyptian zodiacs for many hundreds of years, as we shall see. Sagittarius is wearing the atef-crown, but is still portrayed with the wings, scorpion's tail and dog's head behind the human head that he had on the Babylonian boundary stones of nearly a thousand years earlier (compare Pls. 60 and 42). Capricorn's short, stiff fish-tail and doubled-up leg (above p. 84) is familiar from seals and boundary stones (compare Pls. 40, 41 with Pl. 60

A further Babylonian system integrated into the Dendera star-map is that of the planetary Exaltations. The planets are shown as Egyptian deities. Jupiter, in Cancer, is Horus, depicted with a human body and a falcon's head. Mercury in Virgo, is Seth. He has a human form and holds the wzs sceptre. Saturn, in Libra, has a bull's head, as he is Horus-bull-of-the-sky. Mars, in Capricorn, has a falcon's head and

human body. He is Horus-of-the-Horizon, or Horus-the-Red. The second epithet is later, apparently bestowed just prior to the Ptolemaic period.[20] Mars is also called "the Red" in Mesopotamian texts.[21] Venus, in Pisces, is depicted as male and has two faces, perhaps because it is both morning and evening star. To complete the system one would expect to find the sun in Aries and the moon in Taurus, but neither of the luminaries is shown on the map.

The Dendera zodiac ceiling attempts to accurately portray an astrological system. The constellations have been arranged as nearly as possible to their true positions relative to each other, though without the aid of lines of latitude and longitude, and the planets have been distributed according to their Exaltations. In addition, the circular star-map is supported at the four corners by standing goddesses, and on each side by pairs of kneeling falcon-headed deities. These are usually regarded as attractive space-fillers, but on the contrary, I suggest that they have an iconographic function in the cosmic map. The zodiac is oriented so that the goddesses are beneath the signs of solstice and equinox: Aries, Cancer, Libra and Capricorn. Thus, they represent the cardinal directions and the four major points on the sun's path. The kneeling falcon-headed gods are arranged in pairs, with their arms symbolically crossed, almost certainly to represent the lunar nodes, i.e. the points at which the paths of the sun and moon cross (Appendix A7). These points of crossing are the places at which eclipses of the sun and moon can occur. They are not fixed points, but circle gradually through all the signs of the zodiac, an idea quite well expressed by the encircling ring of kneeling gods. On the carefully

20 O. Neugebauer, R. Parker, EAT III, 1969, 178.

21 Gössmann, "Planetarium Babylonicum", in SL IV/2, 1950, ed. A. Deimel, no. 360, mul salbatānu, p. 180.

organized plan of the Dendera ceiling, a merely decorative surround would have been out of place.

Constellations to the south of the ecliptic on the Dendera ceiling include Orion, Sirius and the decans. Orion, standing below Taurus and the Twins, is portrayed as Osiris, wearing the White Crown and carrying the wzs sceptre. The decans (Appendix A6) were an Egyptian contribution to antique astrology, and we shall meet them again on later monuments. They encircle the perimeter of the map on the Dendera ceiling, and at Esna were arranged in registers above and below the zodiac.

TEMPLE OF MONTU AND RA^{C}TAWI

Another astral ceiling from Hellenistic Egypt, though now lost, was recorded by early nineteenth century travellers.[22] The Temple of Montu and Ra^{C}tawi in Armant, dating to the end of the Ptolemaic period, 44-30 B.C. had constellations decorating the ceiling of the birth room. The bending figure of Nut, the sky, arched over Orion, who was placed between Taurus and Scorpio (spring and autumn) and surrounded by the four winds. Traditionally, even in Pharaonic Egypt, Orion was identified with the god Osiris. During the Hellenistic period the latter was assimilated to Sarapis, whose astral identity was vested in quite a different celestial body, but we shall return to these problems in Ch. 9.

Four other Egyptian zodiac ceilings date to the early Roman period, but as limitations of space will prevent us from returning to this topic, they will be described briefly here.

22 C.L. Irby and J. Mangles, Travels in Egypt and Nubia, Syria and Asia Minor during the years 1817 and 1818, 1923, 136 quoted by Neugebauer and Parker, EAT III, 70.

TEMPLE OF ISIS, SHANHŪR

The temple has been dated to the period of Augustus or Tiberius (c. 30 B.C. - c. A.D. 37). One roof block which according to Neugebauer[23] is one-quarter of the ceiling, portrays the six signs from Leo to Capricorn, and a portion of the arms and legs of Nut (Fig. 71). Leo and Virgo are damaged; a small human figure is sitting under the Balances; and the Scorpion's head is incorrectly towards Sagittarius, who is shown with a dual head and scorpion's tail. A scattering of stars and Egyptian constellations complete the decoration.

RECTANGULAR ZODIAC, TEMPLE OF HATHOR, DENDERA

A second zodiac ceiling in the Temple of Hathor at Dendera takes the form of two rectangular panels.[24] This relief is dated to the reign of Tiberius (A.D. 14-37) and is thus later than the circular zodiac. Each panel is in two registers, with the decans in the lower one. The panel on the western side portrays the signs from Leo to Capricorn (the western half of the zodiac), and figures representing the hours of the day. The planets are shown in their day Houses. The eastern panel portrays the signs from Aquarius to Cancer, with the hours of the night, and the planets in their night houses (Fig. 68).

TEMPLE OF MIN AND ISIS, QIFT (KOPTOS)

A re-used ceiling block portrays Leo with Orion and Sothis (the star Sirius identified with Isis). The block is thought to be Ptolemaic or Roman, but prior to A.D. 54.[25]

23 Neugebauer and Parker, EAT III, 77.

24 Ibid., 79.

25 Ibid., 81.

TEMPLE OF KHNUM, ESNA

A second zodiac ceiling is still *in situ* in the Temple of Khnum.[26] It is believed to date to the period c. A.D. 69-96, about three hundred years later than the lost example from the same temple, mentioned above (p. 123). The relief is rectangular, with the zodiac in registers, and the planets in their Exaltations. Also included are the decans and mythological figures such as the winds.

One further Egyptian ceiling from the Roman period, this time with a circular zodiac, but now lost, will be discussed in Ch. 14. In addition to the Egyptian examples we shall find zodiac ceilings in Palmyra (Ch. 12), in Roman imperial palaces (Hadrian and Septimius Severus Ch. 6), and in the Mithraeum at Ponza (Ch. 8). Ceiling tiles portraying Capricorn or Pisces were also found at Dura Europos, and at the end of antiquity Sasanian and Islamic ceilings will complete our study. Comparatively few ceilings have survived from antiquity, yet the use of the zodiac as a ceiling decoration can be traced from the early Hellenistic period to the beginning of Islam. We may also be confident from the remark made by Plato (p.101) and from the tent described by Euripides, that ceilings portraying constellation figures or celestial maps existed prior to the conquests of Alexander. The astral or zodiac ceiling was evidently an important motif throughout antiquity.

The zodiac ceilings at Esna and Dendera show no discernible Greek influence. Traditional Egyptian constellations are portrayed with the zodiac and one would look for them in vain on Greek star-maps. The zodiac itself and the distribution of the planets in their Exaltations is Babylonian. The Sagittarius figure with the two heads, wings, and scorpion's tail, while known from Mesopotamian examples (Pl. 42, Fig. 5) is different from the centaur-archer in Greek zodiacs (Pls. 66E, 107).

26 Neugebauer and Parker, EAT III, 82-4.

Nor is the image of Leo treading on the snake used in Greek zodiacs, yet both the Leo and the composite Sagittarius were so firmly entrenched in Egyptian zodiacs that we shall find them repeatedly, even as late as the second century A.D. If the ceilings at Esna and Dendera, constructed in a period of Ptolemaic Greek rule, were the only evidence, it would be impossible to guess the appearance of Greek star-maps.

One must conclude that the Egyptians did not learn of the zodiac from the Greeks. If they had, there should be evidence of it in these early ceilings, but there is none. I suggest that the Egyptians, like the Greeks, learned of the Babylonian zodiac in the fourth or fifth century B.C. The line of transmission must have been through a source linked directly to Mesopotamia (presumably the Achaemenids) or the Egyptians could not have adopted an icon for Sagittarius different from the one used by the Greeks. When Alexander arrived in Egypt, the zodiac was already sufficiently well-established for the iconography to withstand Greek influences.

HELLENISTIC ASTROLOGY

A few inscriptions and literary references suggest an awakening interest in astrology in the world beyond Mesopotamia towards the beginning of the Hellenistic period. The statue of an Egyptian astrologer named Harkhebi was found at Tell Faraoun in 1906 and is now in the Cairo Museum (JE38454). The statue is believed to date to the early third century B.C., and has an inscription in which Harkhebi describes himself as:

> "Hereditary prince and count, sole companion, wise in the sacred writings, who observes everything observable in heaven and earth, clear-eyed in observing the stars, among which there is no erring;

who announces rising and setting[27] at their times, with the gods who foretell the future,[28] for which he purified himself in their days when Akh[29] rose heliacally beside Benu[30] from earth and he contented the land with his utterances."[31]

Harkhebi may have been an astrologer in the older sense, not casting personal horoscopes, but as he "contented the land with his utterances", presumably he observed astral omens for the benefit of the state. By the latter part of the same century the Museum at Alexandria was an important centre of astronomy, claiming the services of Aristarchus of Samos, Conon and Eratosthenes, among other famous names.[32] Harkhebi may have seemed rather old fashioned, had he lived. His inscription provides early evidence for the transfer of Babylonian astral divination to Egypt, and is informative of the type and status of astrology in Egypt at the end of the Achaemenid period.

An ostracon, of the third century B.C., also from Egypt, (Strasbourg D.521)[33] lists the planets in relation to the gods, and the zodiac in relation to the months of the Egyptian calendar, providing further evidence of interest in the zodiac in the early Hellenistic period.

In the following century a "Chaldean astronomer" from the Syrian city of Hierapolis was evidently active in Thessaly. A recently published

27 Of the zodiacal signs, perhaps.

28 The planets.

29 One of the decans.

30 Venus.

31 For the rest of the inscription and a commentary, see Neugebauer and Parker, Egyptian Astronomical Texts III, 214-216.

32 Aristarchus of Samos proclaimed that the earth rotated on its axis, and revolved around the sun. Eratosthenes was the author of a famous treatise on astronomy. Conon, though well-known in his day, seems to be remembered mostly for finding Berenice's locks.

33 Neugebauer and Parker, EAT III, 217.

inscription from Larissa[34] thought to date to the mid-second century A.D., records his presence:[35]

> "Antipater, the son of Antipater, a native of Hierapolis of Seleucia, but a citizen of Omolion, a Chaldean astronomer who has been living in our city for many years."

The inscription, like that of Harkhebi, suggests that the man was respected, not least for his profession. In Ch. 14 we shall find the epitaph of a later Phrygian astrologer, who boasts that his expertise brought him fame and prosperity. All three inscriptions suggest that astrologers held an honoured place in the community, and that this was so from the beginning of the Hellenistic period.

Seleucid bullae from Uruk in the collection of the Oriental Institute Chicago, were published by Rostovtzeff in 1932.[36] These were dated by their Greek inscriptions to c. 130 of the Seleucid era (reign of Seleucus IV Philopater 187-175 B.C.). One impression portrayed Sagittarius, Aries and Leo between a star and crescent (A3760). This seal is not only zodiacal, but exemplifies the astrological triplicities. Aries, Leo and Sagittarius form the north-western triangle, ruled by the Sun during the day, and Jupiter at night.[37]

Another group of seal impressions, some on bullae, some on tablets, from Seleucid Uruk is in the Louvre.[38] Often there are multiple seal impressions on each item, many being zodiacal. Capricorn appears four times, Sagittarius twice, and Aquarius once, as well as numerous lions, bulls, crabs, scorpions and fish. One seal (A 810)

34 G.W. Bowerstock, "Antipater Chaldaeus" CQ XXXIII, 1983, 491. Bowerstock suggested that this may be the Antipater referred to by Vitruvius, IX, vi, 2.

35 Translation from the Greek by Ms. Mary Plastira.

36 M. Rostovtzeff, "Seleucid Babylonian bullae and seals of clay with Greek inscriptions", Yale Classical studies III, 1932, 1-114.

37 Ptolemy, Tetrabib. I, 18 and II, 3.

38 L. Delaporte, Catalogue des cylindres cachets et pierres gravées, II, Aquisitions, 1923, Pls. 122, 123.

portrays another of the astrological triplicities, Pisces, Cancer and Scorpio, the south-western triangle dominated by Mars[39] (Fig. 40). It is interesting that the crab appears so often on these seals, as the creature is rare in Mesopotamian art prior to the Seleucid period.

The astrological triplicities portrayed in these two groups of seals from Uruk are of considerable interest. Images of creatures such as fish, crabs, scorpions, lions, bulls and rams cannot readily be distinguished as constellations when shown in isolation from the full zodiac cycle. When they are arranged into a group corresponding to a well-known astrological doctrine, however, their identity can be taken for granted. Until now the relationship between the groupings on the seals and the astrological triplicities has not been noticed, but the publication of the cuneiform tablet BM36746 by Rochberg-Halton in 1984 (above, p.109) establishes that the triplicities were known in the Achaemenid period, and allows us to identify the groupings on the seals with some confidence.

A different ordering that also allows common images in the seal impressions to be distinguished as constellations, is the portrayal together of adjacent constellations, for instance Cancer and Leo, or Libra and Scorpio. An example from the Uruk impressions in the Louvre portrays a lion facing a crab, with a crescent between them (A806). The image is reminiscent of the drawing on the tablet in Berlin, found in Aššur, which shows Leo and Cancer with the planet Jupiter between them (Fig. 37 and Fig. 41). Astrologically, Cancer is the Exaltation of Jupiter, and the House of the moon, so the seal, by substituting the moon for Jupiter, portrays the alternative doctrine. Thus, in the seal impressions from Uruk, apart from the distinctively zodiacal images such as Capricorn, Sagittarius and Aquarius, several of the common images

39 Ptolemy, Tetrabibl. I, 18; II, 3.

including a fish, a scorpion, two crabs, two lions, and a ram can be confidently identified as constellations, so presumably, in the same group of seals, many of the related images fall into the same category.

Through the Seleucid period, Uruk remained an important centre of astronomical studies, contributing a large number of the cuneiform astronomical tablets collected in modern museums. The seals suggest that astrology was also important, and the cuneiform horoscopes of the third century B.C. found in this city (above p.108) bear out the testimony of the seals.

THE LEO OF NIMRUD DAGH

One of the earliest extant Greek horoscopes, and certainly one of the most impressive, is the great stone relief of Leo at Nimrud Dagh in the Taurus Range, erected by Antiochus I of Commagene in the first century B.C. Nineteen stars of the constellation Leo are scattered over the lion's figure and the moon lies across its chest. Above the tail are three larger stars, captioned from left to right, with the names of the planets Mars, Mercury and Jupiter (Pl.65), here identified with Heracles, Apollo and Zeus, deities who appear on other monuments in the complex and are glorified in the inscriptions. The astronomical aspects of the relief were investigated by Neugebauer and van Hoesen[40] with a view to dating it. They noted that the stars of the constellation followed the description given by Eratosthenes in the Catasterisms, and assumed from the absence of two planets, and especially from the absence of the sun, a royal symbol that would have been included if possible, that the monument was genuinely a horoscope. The whole period of Antiochus' lifetime (120-32 B.C.) was checked for an astronomical match,

40 O. Neugebauer and H.B. van Hoesen, Greek Horoscopes, 1959, 14 ff.

i.e. a period in which there was a conjunction of Mars, Mercury, Jupiter and the Moon in Leo. They found that this had occurred on 7 July 62 B.C. The monument, therefore, was not a nativity but a coronation horoscope.

The Leo exemplifies the practice of consulting an astrologer for any important occasion, not for births alone. The stars would be observed before fighting a war or founding a city, before setting off on a journey, or in the case of illness - both more hazardous in ancient times than today. In the Roman world almost anything could be the motive for consulting an astrologer, and the situation was probably not much different at the end of the Hellenistic period. Ptolemy, writing in the second century A.D. but drawing on traditional astrological material of unknown date, even describes which factors in a pair of horoscopes will produce compatible marriages! (Tetrabiblos, IV, 5).

A lion on the reverse of some of the coins of Antiochus I, although shown without stars or other astral symbols, almost certainly relates to the coronation horoscope. We shall see that before the end of the century the Roman emperor Augustus would display a star-sign on Roman coins.

THE SCORPION AND THE SCALES

A paradox found in Mesopotamian texts (above, p. 75) was expressed visually in a few Hellenistic zodiacs. This was, that the Balance Pans of Libra are in fact the Claws of Scorpio. Cuneiform texts use both terms for the constellation, though a distinction in favour of the Balance is perhaps characteristic of the astronomical texts, while the astrological texts seem to prefer the Claws. Aratus, in the Phaenomena, refers to Libra as the Claws (χηλαί),[41] perhaps because the work is poetry with

41 The fact that Aratus uses this term has led some modern writers, unaware that both terms were used in Mesopotamian texts, to argue that whereas the Babylonian zodiac had the Scales, the earliest Greek zodiacs had the Claws of Scorpio, and the two zodiacs were therefore of different origins. See D.R. Dicks, Early Greek astronomy to Aristotle, 1970, p. 251, note 275.

a religious viewpoint, and not a work of astronomy. Only a fraction of Hellenistic astronomical/astrological writing has survived, so it is difficult to be certain about common usage throughout the period, but the identity of the Scales with the Claws of Scorpio was well-known, as attempts were made to express the concept in the arts. To state in purely visual terms that something "is" something else is an exceedingly difficult problem, and we shall see that more than one possible solution was tried - none very successfully.

THE BRINDISI DISK

One possibility was to stretch the Scorpion so that its body was in the correct place, but the claws occupied the space where the Scales should be. This solution mirrors astronomical fact and was doubtless tried many times, though only one example is extant, the Brindisi Disk, found in Italy and now in the Brindisi Museum. The zodiac, modelled in relief on a clay disc, surrounds an apotheosis (Pl. 61). A man and a woman, each grasping a thrysus, are born aloft in a quadriga led by Hermes. The busts of the celestial deities are overhead, and sacred symbols crowd the rest of the field. The zodiac is roughly executed, some signs being misplaced or difficult to recognize. Stylistically and iconographically the work resembles a group of terracotta discs found at Tarentum in south Italy. These were dated by Wuilleumier[42] to the fourth and third centuries B.C. The same material was studied by Cumont,[43] who also argued for an early date, perhaps second or first centuries B.C. as none of the god-symbols which crowd the disks, refer to Isis, Attis, Mithras, or any of the other oriental deities. Boyance[44] also assigned an early date to the disk on the evidence of the zodiacal signs Scorpio and Libra.

42 P. Wuilleumier, Tarente, des origins à la conquête Romaine, 1939, 439 and 543-5.

43 Cumont, "Disques ou miroirs magiques de Tarente", RA V, 1917, 87-107.

44 P. Boyance, "Le disque de Brindisi et l'apothéose de Sémélé", REA, XLIV, 1942, 199.

The Brindisi zodiac is oriented so that the summer, or northern signs, are at the top of the disk, the winter signs at the base. Gemini and Taurus are misplaced in each other's positions. Pisces is shown as a marine creature with an animal forepart (a hippocamp?). The two signs following Scorpio, presumably Sagittarius and Capricorn, are unrecognizable, but Leo, contrary to the way the sign is represented on most zodiacs, faces correctly back towards Cancer, as the constellation does on star-maps. Libra is missing, but Scorpio is elongated to fill the space of two signs. The Gemini are posed in the same way as two figures on an ancient seal in the Bibliothèque Nationale (p. 65 and Fig. 22).

Thus, the Brindisi disk has only eleven signs. The elongated Scorpion takes up the space of two signs, his enlarged pincers, though mistakenly pointing in the wrong direction, represent the Scales. This solution to the problem of identifying the Scales with the Claws of Scorpio is awkward because, with only eleven signs, one month is apparently left unrepresented. Such an icon would soon be abandoned. Nor could it be reconciled to the concept of equal signs, which Greek astronomers recognized by the second century B.C., though they appear to have had small impact on the arts before the reign of Augustus. The artist who made the Brindisi disk knew little of astronomy, but his model was an early one, perhaps dating from the third century B.C. For the disk itself, Wuilleumier argues strongly for an early date, probably not later than the second century B.C.

THE ZODIAC CALENDAR, ATHENS

A different solution was tried on a Hellenistic zodiac in Athens.[45] The monument, a relief almanac, has zodiacal signs representing months

45 L. Deubner, Attische Feste, 1932, 248-254.

interspersed between figures depicting the yearly cycle of Athenian activities and festivities. It begins with the autumn signs, but is not quite complete, as Aquarius and Pisces are missing. It was partly defaced when a series of crosses were carved into it, almost obliterating some figures, including Taurus. This probably occurred in later Christian times when the stone blocks with the zodiac were re-used in the facade of the small cathedral in Athens. The iconography has interesting elements. The Gemini, though more elegantly rendered than those on the Brindisi disk, are shown in the same pose, with arms about each other's shoulders and legs crossed. Capricorn has a very short fish-tail, making the goat's head and forefeet seem disproportionately large. This icon was to undergo considerable change during or just before the reign of Augustus. Most curious of the images is the Scorpion, shown with his pincers completely detached, separated to form a new sign. The pincers appear in the relief as a circular shape, open opposite the point of attachment (Pl. Fig. 66C).

This solution to the problem of Scorpio/Libra is hardly more successful than the last. The artist has found twelve signs to symbolize the twelve months, but detaching Scorpio from his pincers has made both difficult to recognize and robbed the scorpion of his most symbolic characteristic. This scheme must also have been quickly discarded. The relief is probably not to be dated later than the second century B.C.

SCORPION AND SCALES GEM (B.M.)

An answer to the problem was sought through at least one other scheme, and this time the solution must have been thought a better one, as it is known in several extant examples. The Scorpion was made to hold the Scales in his claws. The scheme is less astronomically

accurate, but it does suggest the symbolic link without making the Scorpion unrecognizable or reducing the number of signs. As we shall see (p.144), the image of the Scorpion holding the Scales probably dates to the third century B.C. It is found on the Farnese Atlas, to be discussed shortly, and also on a gem in the British Museum.[46] The latter is a delicately engraved sardonyx with a deeply convex profile, apparently dating to the Hellenistic period. The Scorpion, with upcurved tail, supports the balance beam above his head with both pincers (Fig. 64).

Attempts to find a satisfactory icon to symbolize the link between Scorpio and Libra may have discontinued by the early first century B.C. Geminus of Rhodes refers to Libra simply as the Balances, and a Roman authority on astrology, P. Nigidius Figulus (c. 99-45 B.C.) mentioned that the Scales were held by a deity.[47] In the years to follow, the idea that the images represented signs, rather than constellations, led to placing equally-spaced dividing lines between them, and the link between Libra and Scorpio became impossible. Nevertheless, the old terminology was not forgotten. Ptolemy, writing c. A.D. 150, still mentioned the Claws and the Balance interchangeably.

THE ZODIAC AND THE SCIENCES

Much creative energy in the Hellenistic period was devoted to the sciences, and through them the Greeks made an enduring contribution. In research concerned with astronomy or the calendar, the zodiac was an elegant tool that opened the way to rapid progress. Elaborate sundials are typical of the period. S. Gibbs[48] catalogued 256 Greek and Roman

46 H.B. Walters, B.M. Cat. of gems, no. 2526.

47 Our study of the Roman material will reveal the deity's identity.

48 Sharon Gibbs, Greek and Roman sundials, 1976, 8.

examples and noted that Vitruvius, who deals at length with sundials, listed the names of their inventors. He included Eudoxus, Theodosius, Apollonius, Aristarchus, Berosus and Dionysodorus, indicating that the main period of development was in the fourth and third centuries B.C. These dates agree with what is known of the introduction of the zodiac to Greece. The designer of a sundial needed to be an astronomer and mathematician, as Hellenistic sundials were a web of intricate lines and curves, calculated to be exact at a specific latitude. Skill was needed even to set up already constructed models. Two Hellenistic sundials, dating to the mid-second century B.C. were found at Aï Khanoum, a Graeco-Bactrian city in Afghanistan.[49] Elements of Hellenistic astronomy were perhaps reaching India in the second century B.C., via the colonies of Central Asia.

Waterclocks attained a like degree of sophistication and by the first century B.C. there were zodiac clocks, also described by Vitruvius. Noble and de Solla Price[50] suggested that the Tower of the Winds in Athens once held a device of this type. The Tower of the Winds is octagonal with a mythological wind figure in relief on each face. In antiquity a weather vane swung round to point at the wind that was blowing. The tower is oriented to the meridian, has a sundial inscribed on every side, and an unusual curved sundial on the circular watertower at the back. Clearly, the tower was a display of virtuosity rather than a practical device.

THE SALZBURG DISK

Of the zodiac clock that may once have been inside the Tower of the Winds nothing remains except a few dry water channels, but a fragment of

49 S. Veuve, "Cadrans solaires Gréco-Bactriens a Aï Khanoum (Afghanistan)", Bulletin de correspondence Helénique, CVI, 1982, 23-51.

50 J.V. Noble and D. de Solla Price, "The water clock in the Tower of the Winds", AJA, LXXII, 1968, 345-355.

inscribed disk from a clock of this type, was found in Salzburg. It is Roman, probably of the first century A.D., but as the type is Hellenistic, it will be discussed here. The disk, made of bronze, originally had a radius of more than 60 cm, and weighed over 88 lbs. The fragment, now in the Salzburg museum, shows the constellations Andromeda, Perseus, Auriga and Triangulum, as well as the zodiacal signs Pisces, Aries, Taurus and one of the Gemini (**Fig. 44**). Only the top half of the zodiac signs remain, as the disk has broken along a line of small holes running through the signs and marking the ecliptic. Formerly, a peg representing the sun would have been moved from hole to hole at intervals of two days. The twins were apparently shown as Hercules and Apollo, as the remaining twin holds a club. Taurus was a protome, Aries and Pisces are standard representations. The disk was mounted vertically, visible to a spectator through a series of reference wires. The celestial map, engraved in stereographic projection, would have shown the constellations from the north celestial pole to the tropic of Capricorn, including the zodiac and ecliptic. The disk was turned one revolution daily by an inflow of water. Reference wires formed a window to mark the horizon for the particular locality, and curved wires marked the hour lines. As the sun-peg moved behind the wires it showed the time of day or night, and at the same time the map indicated which stars were overhead, even in the daylight hours. Unlike the sundials, zodiac clocks could show the time indoors, even in rainy weather, but their primary function was probably to charm and amaze the viewer.

THE FARNESE GLOBE

The same intention evidently lies behind another elegant work, the Farnese Atlas. Scholars agree that the globe is a Roman copy from around the time of Hadrian of an earlier, Greek original, assumed to date from the period of Augustus. I shall argue for a much earlier Hellenistic

origin, showing that the iconography relates to the third century B.C. For this reason, although the extant globe is Roman, it will be discussed now.

The Farnese Globe is a celestial sphere supported on the shoulders of a kneeling Atlas. It is marked with the major declination circles, that is, the equator and the Tropics of Cancer and Capricorn. The Arctic Circle, above which the stars never set, and the Antarctic Circle, below which the stars are never visible to a viewer in the northern hemisphere, are also marked. Two more great circles cut the others at right angles, marking the position of the solstices and equinoxes. The oblique zodiacal band is traced by three lines: one down the centre signifying the sun's path; and one on either side limiting the width of the zodiac, taken as twelve degrees, following the Babylonian parameters for the moon's deviation, given as $\pm 6^{\circ}$. The zodiac and other major constellations were laid accurately within the framework (Pl. 62 and Fig. 38).

A viewer looking at the constellations, sees the starry sky as though it were the inner surface of a bowl. The Farnese globe presents an external view of the celestial sphere - a god's eye view - and thus the constellations are shown from behind as though the mythical figures are facing down to a tiny audience inside the globe.

Thiele,[51] discussing the globe in 1898, noted that the arrangement of the constellations on the declination circles and the placing of the lines of solstice and equinox conforms to the parameters of Hipparchus (c. 150 B.C.) and for this reason concluded that the globe probably dates from around the time of Augustus. Thiele's arguments are usually accepted, but I propose to show that the same arrangement of solstices,

51 G. Thiele, Antike Himmelsbilder, 95.

equinoxes and constellations were in use at a much earlier time, and that the prototype of the Farnese globe was made in the early Hellenistic period.

Eudoxus' description (c. 370 B.C.) of how the constellations are placed in relation to the Tropic of Cancer (above, p. 102) agrees perfectly with the arrangement on the Farnese globe (Fig. 138). The tropic does pass through the middle of the Crab, along the body of the Lion, through a tiny section of the Virgin, across the neck of the gripped serpent, through the right hand of the Kneeler, etc. For the other tropics the globe agrees with descriptions in the Phaenomena of Aratus (275 B.C.) which was modelled on Eudoxus' work. In the arrangement of the constellations there is nothing to prevent the globe being given an earlier date.

Equally, the position of the solstices and equinoxes poses no problems. The line marking the spring equinox passes in front of Aries; the summer solstice between Gemini and Cancer; the autumn equinox at the beginning of Libra; and the winter solstice at the beginning of Capricorn. Assigning the solstices and equinoxes to the beginnings of their respective signs (at 0°) corresponds to the plan of Hipparchus, who himself mentioned that the majority of the "old" mathematicians divided the ecliptic at the same place.[52] His statement agrees with the extant sources. The calendars of Euctemon (c. 432 B.C.) and Callipus of Cyzicus (c. 330 B.C.) both have the cardinal points at the beginnings of their signs.[53] Thus, the arrangement found on the Farnese globe was in use from the earliest times.

The careful placing of constellations and declination circles, suggests that the globe was intended to be a display of erudition. Its

52 ed. Manitius, 132.

53 Neugebauer, HAMA, II, 600.

science, however, reflects a period prior to the notion of the zodiac as "signs", governing thirty degrees of arc. Libra, whose stars form the claws of Scorpio, is presented as a separate image, correctly squashed into a small space and grasped in the Scorpion's pincers. The globe's designer was caught between the desire to present a scientifically accurate picture of the sky and the need to display a piece of astral lore. His solution, while not strictly true to either the myth or the stars, was nevertheless a satisfying symbol, later copied by others. Finally, it was dropped in favour of the mathematical concept of signs of equal length. The creative artist working on the original of the Farnese globe was striving for accuracy of a different order, and a different period, a time prior to Hipparchus.

A significant detail for dating purposes is found on the constellation Navis, the Ship, a southern constellation, just above the head of Atlas on the Farnese globe. Only the ship's stern, with steering oars, stylus and aphlaston is portrayed. The aphlaston is an elegantly curving stern ornament used on Greek war galleys, probably to act as a stabilizer by turning the ship into the wind. In Classical and Hellenistic Greece the aphlaston became a symbol of victory, being taken from an enemy ship by the victor after a battle, and exhibited as a trophy or dedicated in a temple. It appears on Hellenistic coins, commemorating sea victories, or as a sign of naval supremacy.

The use of the stylus, a cross-shaped structure found with the aphlaston on early ships, was discontinued during the Hellenistic period and fashions in aphlaston types changed from time to time, so the example on Navis can be compared with examples on coins[54] to find a period of closest similarity. Aphlastons on coins of the first century B.C., the

5- I am indebted to Dr. A.D.H. Bivar for drawing my attention to the aphlaston as a dating criterion.

date usually given for the prototype of the Farnese globe, lack any similarity with the type. Instead of the simple double curve of the Navis example, the ends terminate in a rose, or additional curls. Second century examples are equally unlike, having a single rather than a double curve. The closest match is found in examples of the third century. Demetrius Poliorcetes (above, p. 116) issued a number of coins from the mints of Pella[55] and Amphipolis[56] on which Posidon is shown holding an aphlaston. These agree closely with the aphlaston on Navis.

Thus, the image of Navis reflects a fashion of the third century B.C. Constellations on the Farnese globe are portrayed from behind, so they could not have been copied from a manuscript tradition, where the constellations always face the spectator. One can only assume that the artist who created the original of the Farnese globe, doubtless working for a wealthy patron, designed the images specifically for the purpose. The aphlaston on Navis reflects the fashion at the time the globe was made - the third century B.C.

It remains only to show that celestial spheres were indeed known in the third century B.C. and ancient accounts show that this was the case. Two famous celestial globes were those that belonged to Archimedes (287-212 B.C.) who was killed by Roman soldiers at the fall of Syracuse. Marcellus, commander of the beseiging Roman forces, is said to have deeply regretted Archimedes' death. He refused to take any booty from Syracuse except the two fine celestial spheres that Archimedes had constructed. These were removed to Rome and one was dedicated in the Temple of Virtue. It was described as a solid sphere, marked with the

55 E.T. Newell, The coinage of Demetrius Poliorcetes, 1927, Pl. IV, 5, 6, 7, 8.

56 Ibid., Pl. IX, 1-7.

constellations and said to be greatly admired. The other was less beautiful, but remarkable in its construction. It demonstrated mechanically the revolutions of the sun and moon around the earth and could simulate an eclipse (Cicero, de Rep. I, XIV, 21-22).

The sphere dedicated in the Temple of Virtue must have been very similar to the Farnese globe. It is described as "a very early invention" in comparison to Archimedes' more advanced model, and was said to have stemmed from the kind developed by Eudoxus. No doubt it related to an earlier period in Archimedes' life than the mechanical model. The brief descriptions do not mention that the globe was supported by Atlas, and some ancient globes rested simply on a supporting collar. Nevertheless, Archimedes' sphere remained in Rome for many years and seems to have been known to Cicero. It may well have been the model for the Farnese globe.

THE HELIOS GEM (BM)

One more Hellenistic object remains to be mentioned. A gem in the British Museum[57] portrays the radiate bust of Helios surrounded by the zodiac. The figure is wearing a chlamys fastened on the right shoulder and his hair is shown in the manner of the Alexander portraits. The gem, a garnet, has a deeply convex profile, is delicately engraved, and appears to be Hellenistic. Virgo is winged, as she is on the Farnese globe, though on Roman zodiacs she is more often portrayed as Demeter or Kore, and shown without wings. Libra is represented as unheld scales, and again, on Roman monuments the scales are usually held by a deity. Capricorn, however, already has an elongated tail,[58] which suggests that

57 H.B. Walters, B.M. Cat. of gems, no. 1168, Pl. XVII.

58 The earliest datable image of Capricorn with an elongated tail is on an Augustan cameo, thought to be from the period around 30 B.C. The cameo will be described in the next chapter.

the image is probably not earlier than the first century B.C. The lack of dividing lines between the minute signs also argues for an early date, and I would suggest that the gem was probably cut in the early part of the first century B.C. (Pl. 63).

* * *

Evidence relating to the third century B.C. indicates an active interest in the zodiac from the very beginning of the Hellenistic period. In the first century of Greek rule the zodiac was already an emblem of temporal power to Demetrius Poliorcetes, a subject for poetry to Aratus, and the symbol of a religious mission to Menedemus. Although no surviving zodiac can be dated to that century, zodiac cycles of the period can be traced from later records. The zodiac ceiling of the third century B.C. from the Temple of Khnum at Esna, survived until the nineteenth century and is known from descriptions and drawings by nineteenth century travellers. Knowledge of third century celestial globes is supplied by the Farnese Atlas, evidently a Roman copy of a third century object. The Brindisi disk is also from an early model, as the iconography of Scorpio indicates, though the disk itself is probably not earlier than the second century B.C. Nevertheless, the epigram in praise of Aratus written by Leonidas of Tarentum is direct evidence that the zodiac was known in the Greek cities of southern Italy in the third century B.C. In that century we can trace the zodiac in Sicily, southern Italy, Egypt, Greece, and Asia Minor, and point to evidence that Greeks were portraying it on luxury items.

Significantly, Egyptian zodiacs have minor differences from the Greek cycles, principally in the signs Sagittarius and Leo, though Greek and Egyptian types can both be traced to Mesopotamian sources. This suggests that the Greeks and Egyptians learned of the Babylonian zodiac

through separate channels, and that neither depended on the other as an intermediary. This, in turn, points to the Achaemenid period as the time of transmission, as we have suggested from the evidence presented in Ch. 4.

Themes that were to be of major importance in the Roman period can already be discerned in the Hellenistic material. One is the use of the zodiac in the iconography of kingship. The zodiacal chlamys of Demetrios Poliorcetes probably originated in a Babylonian tradition of royal iconography, and was to be the forerunner of a continuing emphasis on the zodiac and astrology among the Hellenistic kings, followed by the Roman emperors and other monarchs until the end of the medieval period. It is possible that Alexander himself had a shield decorated with the zodiac, but of this we shall hear more in Ch. 6. Seleucid coins portraying the Gemini will find a parallel in Roman times on coins portraying Capricorn, and the astrological Leo on Nimrud Dagh will be succeeded by the horoscope ceilings of Septimus Severus. In each of these examples the monarch proclaims that his success is due to the will of the gods, a theme that will receive further treatment in the next chapter.

Astronomical ceiling decorations maintained their popularity throughout antiquity, and indeed, until the end of medieval times, though this will not concern us. An equally long-lived institution was that of the court astrologer, of whom Sudines was an early and influential example. The inscription from Larissa mentioning Antipater of Hieropolis in the following century suggests that by c. 150 B.C. astrology was not confined to court circles, though Greek horoscopes earlier than the first century B.C. have not survived. With this in mind, it is worth noting a description of an astrologer given by Nonnus (Dionys. VI, 20). His working surface was a table covered with a layer of dark dust. On this

he used a rounding tool to inscribe a circle, and in the circle a square and a triangle. The ephemeral method, accompanied by a verbal message to the client, may explain the paucity of examples. In time, the dust covered table seems to have been superseded by the astrological planispheres, which we shall examine in Ch. 14.

An important theme which will be evident in a great deal of the material yet to be studied emerges already in the Hellenistic material. This is that astrological doctrines were given expression in the visual arts. Among the seal impressions we found examples of the triplicities, recognizable now because of evidence that the doctrine existed as early as the Achaemenid period. Another impression, showing the moon between Cancer and Leo, seems to portray the moon entering its astrological House in Cancer. We also suggested that the deities with crossed arms supporting the zodiac ceiling at Dendera symbolized the lunar nodes. Finally, the protracted experiments to find a suitable icon for the relationship between Libra and Scorpio was discussed at length.

One zodiacal icon is worth independent notice. On the Brindisi disk and the Athenian calendar relief the Gemini were portrayed with their arms about each other's shoulders, the leg of one crossing the leg of the other. This very distinctive image is also found on an ancient seal (above, p. 65). The Twins on the Farnese globe, seen from behind, have their arms in the same position but the legs, though close, are not crossed. By the Roman period the Gemini were almost always shown as Hercules and Apollo, the crossed legs being rarely seen. This and two other changes will be evident in the Roman material; the first being that the Scales were held by a deity, and the second that Capricorn was shown with an elongated tail. In all three cases the changes seem to have occurred in the first century B.C., and it is possible that these

minor reinterpretations may reflect developments in theology. In the chapters to come we shall see that the zodiac held an important place in religious iconography, and although only a small number of Hellenistic examples are known, three were evidently religious icons. Two of these were designed for the ceilings of Egyptian temples, and the third, the Brindisi disk, portrays a scene of apotheosis. We shall find this subject again with the zodiac in Roman monuments.

PART IV

THE ROMAN IMPERIUM

Chapter six. THE ZODIAC IN ROMAN IMPERIAL ICONOGRAPHY

INTRODUCTION: The horoscope of Augustus

Suetonius (Aug. 94, 12) relates that young Octavius, later to become the Emperor Augustus, visited the city of Apollonia in the company of Agrippa when he was about eighteen years old. There, the two young men called on Theogenes, an astrologer, to enquire about their destinies. Agrippa's horoscope was cast first, and foretold such marvels that Octavius was reluctant to tell his birthday in case his stars foretold an inferior destiny. When at last he was persuaded to tell it, Suetonius says that Theogenes worshipped him, and after that Augustus had such faith in his destiny that he allowed his horoscope to be known, and was later to mint coins stamped with his celestial sign.

Like many other antique stories dealing with the boyhood of Augustus, the anecdote may be apocryphal, but probably contains some truth. Augustus may have consulted an astrologer around 45 B.C. as Romans of the period displayed considerable interest in astrology and astronomy. Nevertheless, the story presents difficulties. Augustus was born on 23 September, 63 B.C. which, by normal reckoning, placed him under the sign Libra. The sign adopted by Augustus, however, was Capricorn, as it was the goat-fish that appeared on his coins, and was depicted on the famous Gemma Augustea, to be examined presently. Why this should be so has caused a continuing debate, and attempts to explain the choice have resulted in three theories: one, that the moon was in Capricorn at Augustus' birth; two, that Augustus was conceived under Capricorn; and three, that when Augustus was born, Capricorn was on the Ascendant. Each will be considered in turn.

The moon was an important factor in ancient astrology and Firmicus Maternus devoted a good deal of Book IV of his astrological treatise,

the Mathesis, to the moon's influence. He noted (VI, ii, 1) that there are "regal" stars in Leo, Scorpio, Aquarius and Taurus, and if the moon is with any of these it can mean even imperial power. He did not, however, mention Capricorn in this connection, and as Augustan images of Capricorn are never accompanied by the moon, the factor is not likely to have been significant in this case.

The second theory, that Augustus was conceived under Capricorn, is perhaps better. Capricorn does indeed precede Libra by nine months and the date of conception was considered astrologically important. The cuneiform horoscope of the third century B.C. from Uruk (above, p.108) specifies the date of conception as well as the date of birth, and the practice was also known to Greek astrologers, as Vitruvius (IX, 6, 2) mentions that a certain Athenodorus had perfected a method of casting such horoscopes. Augustus perhaps selected Capricorn because it ruled over the month in which he was conceived.

The third theory, that when Augustus was born Capricorn was on the Ascendant, that is, just rising over the eastern horizon, cannot be true if we are to believe Suetonius (Aug. V), who says that Augustus was born just before sunrise. When the sun is in Libra, that sign rises with the sun over the eastern horizon. Depending on how long before sunrise Augustus was born, only Libra itself, or the preceding sign Virgo, could have been on the Ascendant.

The second of the three theories is the only one to offer a reasonable solution. It is clear, however, that when Augustus elected to display Capricorn as part of his imperial iconography, he was exercising a choice. He could have chosen Libra, his birth sign, and one eminently suited to the ruler of an empire, as Libra was regarded as a symbol of justice and stability. Instead, he chose

Capricorn for a reason that will gradually emerge. In astral theology the special importance of Capricorn is that it is the Exaltation of Mars. If Mars was in Capricorn at the birth or conception of Augustus, it would have been thought a good omen for a military career, and especially so for Augustus, as according to D. Earl[1] the ancestors of Augustus had long held a special position in the worship of Mars at Velitrae. Even more important, Augustus had vowed at Phillipi that if Mars helped him to avenge the death of Julius Caesar, he would build him a temple and establish his right to be called the Avenger.[2] Augustus did have his revenge, and in return built two temples to Mars the Avenger. A small temple was built on the Capitol in 20 B.C.[3] after the recovery of the Roman standards from the Parthians, and a second, more splendid temple in the forum of Augustus was dedicated in 2 B.C.[4] Traditionally, Mars was regarded as the father of the Roman people, and Augustus clearly favoured him. He purchased the land for the larger temple out of his own pocket[5] and awarded it privileges that in the past had been reserved for the temple of Jupiter.[6]

At what period the Roman Mars was identified with the planet is unknown, but certainly it was well prior to the first century B.C. With the Roman warrior god assimilated to the planet, Capricorn, the celestial sign in which Mars was astrologically Exalted, could become an easily recognized symbol for the god. This in itself would be sufficient reason for Augustus to adopt the sign, especially if he attributed his success to the bargain with Mars. It is significant that the first Augustan Capricorns began to appear on coins and gems after the Battle of Actium, apparently with reference to that event.

1 D. Earl, The age of Augustus, 11-12, 18.

2 Suetonius, Aug. XXIX.

3 H. Mattingly, Coins of the Roman empire, I, 1923, cxi.

4 Described by Ovid, Fasti, V, 545-568.

5 D. Earl, The age of Augustus, 102, citing the Res Gestae Divi Augusti.

6 Ibid. 11-12, 18.

If the sign also figured propitiously in the birth chart of Augustus - and Suetonius says that it did (Aug. 94) - Capricorn would be a symbol of the divine favour of Mars towards his descendant Augustus. Mars was a god of war, and war achieved the creation of the empire. We shall see in the following pages that when Augustus made use of Capricorn as an imperial icon, a military connotation can usually be discerned.

In adopting a star-sign as part of his imperial imagery, Augustus began a custom continued by later emperors, of utilizing the zodiac as an aspect of Roman imperial iconography. Here Rome followed a trend known to Hellenistic monarchs such as Demetrius Poliorcetes, who wore a chlamys adorned with the zodiac, or Antiochus I of Commagene whose coronation horoscope, the great lion of Nimrud Dagh, was followed by coin issues on which the reverse featured a lion (above, p. 134).

AUGUSTAN CAMEOS AND GEMS

THE GEMMA AUGUSTEA

The Gemma Augustea is a huge sardonyx cameo, brown on white, now in the Kunsthistorisches Museum, Vienna (IX A 79). It measures 22.3 cm across and was probably cut to mark the occasion of the Triumph awarded to Tiberius in A.D. 12 (Pl. 67). Augustus, his feet resting on war trophies, is seated beside the goddess Roma. Allegorical figures occupy one end of the upper register, the first probably Oceanus, then Terra with a cornucopia and children, next the Orbis Romanus holding a laurel wreath over the head of Augustus. At the other end Tiberius, attended by Victory, dismounts from his chariot, and a young prince waits near by. In the lower register Roman soldiers erect a trophy

among prisoners of war, and at the top of the gem, in the place of honour between the heads of Roma and Augustus, is the image of Capricorn, shown with an elegantly looped tail. The gem stresses military invincibility, noting each essential link in the imperial military hierarchy, from the common soldiers erecting their trophy at the bottom, through the victoriously returning general, to Augustus as supreme commander, and finally placing the whole structure under the influence of Mars, represented by Capricorn, his Exaltation and the symbol of his favour towards Augustus. The imagery of the gem implies that imperial power and material abundance are the benefits conferred by Mars when his warrior votaries in the ruling family act valiantly as his instruments.

One other zodiacal sign appears on the Gemma Augustea. Behind the soldier erecting the trophy on the far left is a shield decorated with a scorpion. This presumably represents the sign Scorpio, eminently suitable for military decoration as Scorpio is the astrological Day House of Mars,[7] and the sign under which Tiberius was born.[8] The shield probably refers to Tiberius.

THE HERMITAGE CAMEO

A second brown on white sardonyx cameo portraying Augustus with Capricorn is in the Hermitage collection, Leningrad (no. ✳ 263). The gem is thought to have been cut in the twenties of the first century B.C.[9] and has the inscription: OCT. CAES. AVG. TER. MA. RQ. VOT. PUB. The emperor's portrait is shown above Capricorn, who sports

7 see Appendix A 3.

8 According to Suetonius (Tib. 5.) Tiberius was born on 16 November.

9 O. Neverov, Antique cameos in the Hermitage collection, no. 71.

a long curled tail (Fig. 45). Also in the field, but smaller, are a dolphin, a trident, a hand holding an aphlaston, a blazing altar, and a caduceus. The latter is usually taken to be a symbol of peace, but on this gem, which is thought to commemorate the Battle of Actium,[10] it was victory rather than peace that was being celebrated. Altheim[11] noted an ode of Horace (Bk. I, ode 2, 41 f.) in which the poet speaks of Mercury having descended to earth and entered the form of Augustus. Altheim then drew attention to two works of art in which Augustus was portrayed as Mercury. One is the Bologna Altar, which portrays Roma followed by a caduceus-carrying Mercury with the features of Augustus, and the second is a gem[12] with the bust of Augustus and a caduceus in the field. The unobtrusive caduceus on the Hermitage gem may be a reference to Augustus himself.

The Hermitage cameo and the Gemma Augustea have the earliest known examples of Capricorn with an elongated tail, developed apparently under the influence of the fabulous Hellenistic sea-beasts. Earlier Capricorns have the short tail akin to the ancient examples from Mesopotamia. The elongated tail was to become increasingly common, though the short tail continued to appear and was the form adopted for the coinage and legionary standards.

THE CAPRICORN CAMEOS OF NEW YORK AND BERLIN

A third Augustan cameo with Capricorn, again a brown and white sardonyx, is in the Metropolitan Museum, New York[13] (no. 29 175 4).

10 M. Maximova, "Un camée commémoratif de la battaille d'Actium", RA, 1929, 64 f.

11 F. Altheim, A history of Roman religion (English trans.), 365.

12 Furtwängler, Antiken Gemmen, pl. 38, no. 30.

13 G.M. Richter, Metropolitan Museum, catalogue of engraved gems, Greek, Etruscan and Roman, no. 649, pl. LXXIII.

Capricorn is shown as two conjoined protomes with a laurel wreath medallion between the horns that encloses the bust of Augustus Fig. 46). A fourth, almost identical cameo is in the Berlin Museum,[14] the medallion bust of Augustus again supported between the horns of conjoined Capricorns. On both gems Capricorn's fish-tail has disappeared, but the body is scaly and small fins have been added under the belly. The cameo cutter has indicated a support column under the central medallion, and two further supports between the chin and foreleg of the two goats. This suggests that the cameo portrays an actual object, perhaps an apotheosis monument, on which the emperor's wreathed bust was supported on a base composed of possibly four (? or three?) Capricorns. According to Germanicus Caesar[15], Augustus was carried into heaven by Capricorn.

THE LIVIA GEM

The Capricorn protomes are of interest in connection with a broken gem in the Bibliotheque Nationale, known as the horoscope of Livia Drusilla.[16] The gem shows the cuirassed torso of a cock-headed deity holding a heart in one hand and a conch in the other. Beneath him the forepart of a goat, running right, and a second pair of goat's horns, facing left, disappear into the broken left hand corner. The inscription around the edge was restored by Chabouillet[16] as follows: CON(iux) DIV(i) AUG(usti) LIVI(a) DRUSI(lla). In the field are the symbols for Virgo, Mars, Venus and Capricorn, as well as the figure XXIII. Delatte and Derchain[17] suggested that the arrangement of the

14 A. Furtwängler, Beschreibung der geschnittenen steine im Antiquarium, no. 11074.

15 O. Gain, The Aratus ascribed to Germanicus Caesar, lines 557-9.

16 Delatte and Derchain, Les intailles magiques Greco-Egyptiennes, no. 395.

17 Ibid., 275.

signs indicate a date that would be limited by Venus in Virgo and Mars in the twenty-third degree of Capricorn (Fig. 47 a).

Professor Neugebauer, asked by the editors to express an opinion on the gem, was inclined to regard it as a Renaissance forgery, saying 1) that the planetary and zodiacal symbols are not attested in this form before the Renaissance; 2) that the heart in the modern form is not attested in antiquity; 3) that the conch is not an antique cornucopia; 4) that the cock-headed god is not usually associated with a pair of goats; and 5) that the astronomical data does not fit with a birth or marriage date for Livia. Livia's birthday and marriage both fell early in the year, but Venus can never be more than two signs from the sun, so Venus in Virgo would demand a date not earlier than July.

Delatte and Derchain drew attention to a magical papyrus in Leiden (PMG, XIII, 175) where a form of Hermes-Thoth was described as appearing with a heart in his hand. This they related to the deity on the gem and questioned how such a mythological figure could have been known in the Renaissance.

This interesting gem merits reconsideration. The "two goats" are probably in fact a double-ended Capricorn, of the type on the cameos in New York and Berlin (Fig. 47 b shows a possible reconstruction). The conch in the deity's hand has a related symbolism, for according to Germanicus Caesar (Arat. line 554) the conch was used for the battle call, and had been discovered by Capricorn. With regard to the cock-headed deity, if the heart in his hand does identify him with Hermes-Mercury (as in the papyrus noticed by Delatte and Derchain), the gem may be one more example of an allusion to Augustus as Mercury (above, p. 156).

A major problem raised by the Livia gem is whether the symbols

used for the planets and zodiacal signs at least since the Renaissance were also known in antiquity. If the Livia gem is antique, it is the earliest attestation by some hundreds of years for the following symbols: ♂ (Mars); ♀ (Venus); ♍ (Virgo); ♑ (Capricorn). Most antique treatises on astrology are known only from late Medieval or Renaissance copies, so it is difficult to be sure when such symbols first appeared, as copyists sometimes transfer words as symbols, or symbols as words. Nevertheless, we shall see below (p. 253) that the sign ♎ for Libra was in use by the fourth century A.D., and that monogram symbols were found on vases associated with the cult of Sarapis and Isis at Pompeii (below, p.253). Similar monograms might already have been constructed for the planetary deities, though there is as yet no evidence.

The gem seems to allude to two planetary positions: Venus in Virgo, and Mars in Capricorn 23°. Augustus was conceived under Capricorn and used Capricorn, as the Exaltation of Mars, in his imperial iconography. If Mars happened to be in Capricorn when Augustus was conceived or born, or if the planet happened to be in Capricorn on a significant military occasion, such as the day of the Battle of Actium (2 September, 31 B.C.) there would be additional reason to stress the goat-fish among the Augustan icons. Several of the iconographic elements on the Livia gem seem to refer to Augustus and it is possible that the planetary positions refer to a date significant in the emperor's life. The gem's apparent unity of symbolism is unlikely in a late forgery. The only reason for doubting the antiquity of the gem is that the planetary and zodiacal symbols are not attested elsewhere on demonstrably antique objects. The argumentum ex absentia, however, does no more than leave the question open.

Capricorns used in state imagery during the reign of Augustus were

susceptible of a military interpretation. The Hermitage cameo has been interpreted as a reference to the Battle of Actium, and the Gemma Augustea is presumed to refer to the Triumph awarded to Tiberius. The other two cameos provide less explicit information, but may represent apotheosis monuments. Apart from the cameos, Capricorn appears on two classes of objects: the coinage, and the legionary insignia. Both of these were intended for public display, and suggest that the militant aspects of the image were widely recognized.

THE LEGIONARY INSIGNIA

The legions were awarded one or more symbolic devices in addition to the aquila, or Roman eagle, which always accompanied them. In the following discussion we shall briefly consider three that relate to zodiacal signs, that is, the Goat-fish, the Bull and the Ram.

Evidence that Capricorn was adopted for legionary insignia comes from inscribed statues and reliefs found in the vicinity of old camps. Espérandieu[18] mentions two from Roman Gaul, one being a statue of Capricorn with the inscription XXII Legio primigeni,[19] and the second a tablet portraying a bull to the left, Capricorn to the right, and between them the inscription (LEG)io XXII.[20] A third, uninscribed relief showing Capricorn with a cornucopia[21] is also thought to have come from a legionary camp. In Britain, a building block from Hadrian's wall shows Capricorn, Pegasus, a standard and the inscription LEG. II AVG. (British Museum PRB OA 250).

18 Espérandieu, Bas-reliefs de la Gaule Romaine, 1907.

19 Ibid., Vol. VII, mon. 5882.

20 Ibid., mon. 5869.

21 Ibid., vol. XIV, mon. 8517.

According to H. Parker,[22] Capricorn in the insignia indicated that the legion had an Augustan origin, and the bull signified that the legion had been founded by Julius Caesar. If a legion was re-organized by a later emperor, another device might be added. Parker, following various nineteenth century scholars, accepted the bull as zodiacal, the reason given being that Taurus is the Night House of Venus,[23] the goddess-patron of the Julian clan. The explanation does not seem to rest on an ancient authority, but is reasonable for the period.

Later, Domitian and Marcus Aurelius also adopted zodiacal signs for the insignia of their legions. K. Scott[24] notes that Domitian was devoted to Minerva and credited her with his victories. He founded a new legion, probably for the war against the Chatti in 83 A.D., and named it I Flavia Minerva, selecting Aries for the insignia because Aries governed the month sacred to Minerva (17 March - 16 April). The legion remained faithful to Domitian during the revolt of Saturninus, and was renamed I Flavia Minervia pia fidelis Domitiana, although the emperor's name was dropped after his death. The legion's standard displaying the Ram appears on Trajan's column, and on two coins, one a coin of Victorianus which shows Minerva followed by a Ram and bears the inscription LEG. PRIMA MINEVINA P F; and the other a coin of Carausius, which shows the Ram with the inscription LEG. I M.[25]

Less than a century later, Marcus Aurelius bestowed the Twins and Capricorn on Legio II Italica.[26] The Twins presumably referred to Castor and Pollux, who were traditionally supporters of the Roman army. They, however, had been identified with the zodiacal Twins since Republican times (above, p.).

22 H. Parker, The Roman legions, 1958 ed., 262.

23 See Appendix A3.

24 K. Scott, The imperial cult under the Flavians, 179-80.

25 Mattingly and Sydenham, RIC, V/2, 468, 487.

26 R. Cagnat, "Legio" in Daremberg and Saglio, DdA, 1074.

THE IMPERIAL COINAGE

Capricorn appeared intermittently on the imperial coinage throughout the reign of Augustus (27 B.C. - A.D. 14). The earliest examples are aurei and denarii issued at the beginning of the reign in 28-27 B.C. These show a small Capricorn below the emperor's head on the obverse side, while the reverses (two types) have either the crocodile or the hippopotamus,[27] a reference to Roman supremacy in Egypt. Around the same period Capricorn made his first appearance as a reverse type, a position the sign would occupy on many future occasions. In that first issue the goat-fish was shown with a globe, rudder and cornucopia,[28] perhaps a reference to the sea victory at Actium in 31 B.C. Further Capricorn issues around 20 B.C. were presumably inspired by the recovery of the Roman standards from Parthia. At this time, as well as honouring Mars through Capricorn on the coinage, Augustus built the smaller Temple of Mars on the Capitol, and struck coins showing the image of Mars in the temple with the standards (Pl.73), an image to which we shall refer again later. Capricorn issues continued to appear at various mints throughout the reign, and indeed the device would still be used on the coinage of later emperors.[29] The continued use of Capricorn as a reverse type for the imperial coins does not necessarily imply that later emperors had the same devotion to Mars as Augustus. Once Capricorn was established among the legionary insignia, later issues might simply refer to the legions.

27 C.H. Sutherland, RIC, I, 1984, nos 544-6.

28 Ibid., Denarius, uncertain (Eastern?) mint, nos 547-8.

29 Mattingly and Sydenham, RIC, 1926.
Vespasian, nos 88, 117-118, 182, 252.
Titus, nos 7, 13, 19, 44, 63.
Nerva, no. 126.
Hadrian, no. 189.

A complete zodiac is not ideally suited to the small space of a coin, as the signs must be reduced to minute size for the cycle to be accommodated. Inevitably, however, the full zodiac was used on coins, though it was not until nearly one hundred and thirty years after the death of Augustus. The first coins struck with the full cycle were minted in Alexandria during the reign of Antoninus Pius (A.D. 137-161) and were designed to commemorate the inauguration of a new Sothic cycle. This cycle, named for the star Sothis, our Sirius, was the result of inequalities in the two Egyptian calendars, civil and religious, operating side by side.[30] The two calendars converged only after an interval of 1461 years, when for a period of four years the heliacal rising of Sothis, which determined the religious New Year, fell on the first day of the month, Thoth, New Year's day in the civil calendar. According to Censorinus (De die natali liber, 18) the new Sothic cycle began in A.D. 139.

It was a memorable event. The very length of the cycle made it a remarkable occurrence and ensured that it attracted a share of mythology. It was thought that to begin a new period was like a return to the time of creation, a chance for the restoration of the Golden Age. The new cycle came to be associated with the mythical phoenix,[31] which appeared as a reverse type on the Alexandrian coinage of Antoninus Pius in A.D. 138/9 and 142/3, that is, at the beginning and the end of the period in which the rising of Sothis corresponded with 1 Thoth. Presumably, the bird that was believed capable of perpetual self-renewal (below, p. 263) was regarded as a symbol of the renewal of Time. In succeeding chapters of this study it will become apparent that the second century A.D. was a period in which

30 See Appendix A 11.

31 R. van den Broek, The myth of the phoenix, 1972, 70.

speculation concerning Time and the great cosmic cycles achieved widespread interest, and although these theories seem to have been already established in the first century A.D., the new Sothic cycle must have added considerably to the general climate of ideas that would give deified Time such an important place in late pagan religion.

The Alexandrian zodiac coins were struck in A.D. 144/5, the end of the period in which Sothis still rose on New Year's day. Concerning Roman coinage in general, Toynbee[32] remarked that it was essentially medallic in character, struck to commemorate important events or ideas, a function relegated to postage stamps in the modern world. If the importance of an event in the Roman empire can be measured by the number of coin-types issued to commemorate it, the beginning of the new Sothic period must rate highly, for in the zodiac series alone there are eighteen different designs. Most have been preserved in very small numbers, and in some cases only one specimen is known.[33] Iconographically they fall into two groups: those with complete zodiacs, and those showing one sign with a planet. The bust of Antoninus Pius is on the obverse of both groups.

The first group, those with complete zodiacs, contains four types, each with the design arranged in concentric circles around the bust of a deity or deities, as follows:

1 Bust of Sarapis facing left, surrounded by two concentric circles. In the inner ring are the busts of the planets in the order of the days of the week; in the outer ring, the zodiac.

2 Busts of Sarapis and Isis surrounded by two concentric rings, both containing the signs of the zodiac and co-inciding exactly.

3 Busts of the sun and moon, left, surrounded by the zodiac.

32 J.M.C. Toynbee, Roman Medallions, Numismatic studies 5, p. 16.

33 C. Carlson, "The zodiac series revisited", SAN, vol. IV/3, 1973-4, 49.

4 Busts of the sun and moon surrounded by two concentric rings. The busts of the planets are in the inner ring, and the signs of the zodiac in the outer ring.

The four deities honoured on the zodiac coins, Sarapis, Isis and the sun and moon, will be discussed in other chapters. For all four Alexandria was apparently an important cult centre, but here they preside over the long cosmic cycle, and the optimistic beginning of a new era. The coins are worn and the zodiac figures necessarily tiny, though they appear to represent a conventional series. Of particular interest is no. 2, above, which shows the zodiac twice in concentric rings, each sign co-inciding with its pair, evidently to show that the civil and Sothic calendars were exactly in agreement at the beginning of a new age.

The second group of Alexandrian zodiac coins shows the planets in their houses, as follows:

The Sun in Leo (the House of the Sun). Bust of the sun, radiate, with a lion and star.

The Moon in Cancer (the House of the Moon). Bust of the moon in a crescent encircled by the claws of a Crab, and a star.

Mercury in Virgo (Day House). Bust of Mercury with caduceus and star. Virgo portrayed as Demeter or Kore holding a torch.

Mercury in Gemini (Night House). Bust of Mercury, with star. The Gemini are shown as Hercules, with club and lion skin, and Apollo, with a lyre.

Venus in Libra (Day House). Diademed bust of Venus, with star. Below, a male figure carrying scales, arranged horizontally as though he is flying.

Venus in Libra (Day House). Bust of Venus, with a star. Below, is a standing male holding scales.

Venus in Taurus (Night House). Bust of Venus with a star and bull.

Mars in Scorpio (Day House). Helmeted bust of Mars, left, with star and scorpion.

Mars in Scorpio (Day House). Helmeted bust of Mars, right, with star and scorpion.

Mars in Aries (Night House). Helmeted bust of Mars with star and a ram, running forward and looking back.

Jupiter in Sagittarius (Day House). Bust of Jupiter with a star, over a centaur-archer, running right.

Jupiter in Pisces (Night House). Bust of Jupiter laureate, with a star. Below, two fish facing in opposite directions.

Saturn in Capricorn (Day House). Bust of Saturn with globe, harpé and veil, over Capricorn with a looped tail.

Saturn in Aquarius (Night House). Bust of Saturn with globe, harpé and veil over a swimming or flying Aquarius, wearing a chlamys and holding an amphora.

A more complete description of the coins will be found in the Catalogue of zodiac monuments, Items no. 185-202. For illustrations, see Pls. 129 and 134-140.

Generally speaking, the zodiacal signs on the coins follow an iconography well-known on Roman monuments. Aries turns his head back towards his tail; Taurus butts obstructively in the direction opposite to the other signs; Capricorn has a long, looped tail similar to the examples on the Augustan cameos; Cancer, Leo, Scorpio, Sagittarius and Pisces are conventional. The Gemini are shown as Hercules and Apollo, an interpretation common in Roman zodiacs, but different from the naked youths who appeared on the Hellenistic zodiacs discussed so far. The coin designers experimented with two images of Libra. Both portraying youthful, nude males holding the Balances, but on one coin the figure stands upright, and on the other he appears to float. For Aquarius, too, a pose reminiscent of swimming or floating was chosen, probably to convey that the signs float across the sky. Floating signs are not common on Roman zodiacs but they do occur on zodiacs from the Greek cities of Asia Minor (below, pp.297, 311) and are found on a late monument from Roman Gaul (p. 360). Alexandrian artists used the floating position on only two signs, though for round coins the

horizontal, slightly curved bodies make a more satisfactory composition than the upright poses. The floating pose may have been thought too effeminate for Hercules and Apollo, and perhaps unsuitable for Kore. Examples from Asia Minor do use floating poses for Virgo and the Gemini, but the latter, as we shall see later, were not interpreted as Hercules and Apollo.

In Alexandria, Virgo was evidently thought of as Kore, thus maintaining the old tradition that regarded the constellation as a grain-goddess.[34] Graeco-Roman mythology taught that grain-goddesses spent part of the year in the underworld, so the torch as well as the grain was an appropriate symbol, depending on which aspect of the goddess was to be stressed. A great annual festival celebrated by torch light in the Koreion in Roman Alexandria is worth noting here, because it perhaps explains the torch on the zodiac coin and also relates Kore to another deity who will occupy a great deal of our attention in the following chapters. The festival was described by Pettazzoni[35] and Nock,[36] both quoting Epiphianius (Panarion, LI, 22). It was celebrated on January 5-6, beginning with an all-night vigil accompanied by songs and flute music. After cock-crow torch-bearers entered a subterranean cavern and brought up a wooden image lying naked on a bier and bearing five gilt cross-shaped seals, on the forehead, hands and knees. The image was carried seven times around the centre of the shrine and it was said that on this day and at this hour the Virgin Kore gave birth to Aion. In another chapter we shall see that there is a relationship between Sarapis and Aion, and as the former also appeared on the Alexandrian zodiac coins, it seems reasonable to

34 For another interpretation, see below, p. 360.

35 R. Pettazzoni, "Aion (Kronos) Chronos in Egypt", Essays on the history of religions, Supplements to Numen I, 1954, 172.

36 A.D. Nock, "A vision of Mandulis Aion", Essays on religion in the ancient world, 388.

postulate that the coins may represent the theological viewpoint of a particular cult, and not simply a group of traditional astrological images. One may also note the suitability of portraying the mother of Aion on coins celebrating the beginning of a new era.

Two other coins struck at the Alexandrian mint around the same period (c. A.D. 142), while not strictly zodiacal may refer to the new Sothic cycle. The reverse of one coin has a ploughman, and the other a reaper,[37] the beginning and end of an agricultural cycle, and perhaps the symbol of the beginning and end of a greater, cosmic cycle. The coins may refer to Chronos-Saturn, who was called Sower and Reaper. In mythology he was thought to have ruled a Golden Age, and the new Sothic cycle may have inspired hopes of a return to his rule of justice and plenty. The imagery complements the ideas implied in the zodiac series.

An important question raised by the Alexandrian zodiac series concerns its relationship to the emperor. To what degree the imagery of the coins is to be identified with the emperor's personal beliefs is of some interest, though limitations of space will not permit us to explore it fully here. Politically, to associate the emperor's name and reign with the beginning of a new era, hopefully a new Golden Age, was a sound policy, but other indications suggest that Antoninus Pius may also have had a personal commitment to ideas of deified Time, as we shall see presently (pp. 187-8).

The Alexandrian mint was apparently the first to strike coins bearing the complete zodiac, or a full set of separate coins showing different signs. Others, however, followed later. Five different

37 BMC Alexandria and the Nomes, Pl. XII, nos. 1091-2. J.G. Milne, Catalogue of Alexandrian coins, xxxii.

antique coin types bearing the zodiac have been recorded. The earliest, said to have been minted in Nicaea, Bithynia, the birthplace of the astronomer Hipparchus (above, p.102), is attributed to the reign of Antoninus Pius. The coin, which portrays an enthroned Zeus with the figures of Helios and Selene above, Terra and Oceanus below, with the whole encircled by the zodiac, was described and illustrated by Cumont,[38] Cook,[39] and Levi.[40]

The remaining four belong to the third and fourth centuries A.D., the earliest from Amastris in Paphlagonia during the supremacy of Julia Maesa, and two others from the reigns of her grandsons, Elagabalus (218-222 A.D.) and Severus Alexander (222-234 A.D.). The first, the coin from Amastris, has Julia Maesa herself on the obverse, and on the reverse a standing Zeus and Hera surrounded by the zodiac[41] (Pl. 127). The coin expresses the point of view of a powerful woman, placing the goddess Hera on an equal footing with her royal husband, Zeus. The second zodiac coin, from the reign of Elagabalus, was minted in Akko-Ptolemais, Palestine, and shows Artemis as a huntress in a distyle temple surrounded by the zodiac.[42] The third, from the reign of Severus Alexander, was issued in Perinthus, Thrace, and shows Zeus enthroned, surrounded by the zodiac. Helios in a quadriga, and Selene in a biga drawn by bulls, occupy the field[43] (Pl. 126). Further zodiac coins were minted in the reign of Valerianus (253-260 A.D.). Artemis in the zodiac was re-issued in Akko-Ptolemais,[44] and

38 Cumont, "Zodiacus" in Daremberg and Saglio, DdA, 1057, fig. 7597.
39 Cook, Zeus, I, 752, fig. 551.
40 Levi, "Aion", Hesperia, XIII, 1944, 294, fig. 19c.
41 BMC, Pontus, etc. Amastris, no. 34.
42 L. Kadman, Corpus nummorum Palaestinensium IV, 54 (no illustration).
43 BMC, Thrace, etc, Perinthus, no. 58, p. 157.
44 L. Kadman, op. cit., 124.

in Aegae, Cilicia, a coin was struck showing the head of Medusa in the zodiac.[45]

Individual zodiacal signs appearing on the coins are not always easily recognized, but a full analysis of antique coinage from this point of view would require a separate study. Capricorns on the imperial coinage have already been discussed, but it is interesting that the goat-fish was also used in the first century A.D. on the coins of Antiochus IV of Commagene (38-72 A.D.) and his wife Iotape. Coins with the bust of Antiochus on the obverse show on the reverse Capricorn in a laurel wreath,[46] or a scorpion in a laurel wreath.[47] As Capricorn is the Exaltation of Mars and Scorpio the House of Mars, there can be little doubt that the coins had a military meaning, especially as the signs are enclosed in laurel wreaths, symbols of victory. Indeed, a coin issued in A.D. 72 combines both signs on one coin, having Capricorn on the obverse and Scorpio on the reverse.[48]

In the third century A.D. a few cities re-introduced a practice that seems to have been known in an earlier period, that of using the city's star-sign on the coinage. Taking some examples at random, a coin of Rhesaena[49] has a bust of Elagabalus on the obverse and Sagittarius on the reverse. From the reign of the same emperor, a coin of Antioch[50] shows the city Tyche with a Ram and star. A coin of Severus Alexander minted in Nisibis[51] portrays the city Tyche wearing a mural crown with Aries in the field overhead. A coin of Singara[52]

45 BMC Lycaonia, Isauria, Cilicia, mentioned p. xiii (additions and corrections).

46 BMC Galatia, etc. Commagene, Antiochus IV, 11-15, p. 107, Pl. XIV, 10.

47 Ibid., nos. 1-10, Pl. XIV, 9.

48 BMC Galatia, Cappadocia, Syria, Commagene, p. 112, no. 3.

49 BMC Arabia, etc. Rhesaena, Elagabalus, no. 4.

50 BMC Galatia, etc. Antioch, Elagabalus, no. 451, p. 205.

51 BMC Arabia, etc. Nisibi, Severus Alexander, no. 4.

52 BMC Arabia, etc. Singara, Gordian III, nos. 1-15.

from the period of Gordian III has the city goddess with Sagittarius, and from the period of Phillip senior, a coin of Damascus[53] shows the city goddess in a shrine ornamented with a Ram. These few examples will serve to illustrate the official status, both at imperial level and in a local context, accorded to the zodiacal signs. (For illustrations, see Pls. 130- 132).

IMPERIAL HOROSCOPES AND CEILINGS

In the ancient world astrology was treated as a scientific discipline, a field worthy to engage the energies of able scientists such as Hipparchus and Claudius Ptolemy, or to provide a divine theme for poets such as Virgil and Manilius. Following the example of elite circles in Hellenistic society, educated and powerful members of the Roman aristocracy began to interest themselves in astrology. The senator Nigidius Figulus (c. 99-45 B.C.) was a prominent Roman authority on astrology;[54] and some of his writings are still extant. Cicero and later Germanicus Caesar composed works on the stars in Latin based on the Phaenomena of Aratus. Cicero's Aratea and the poem by Germanicus both survive.[55] Respected and influential astrologers had advised Hellenistic monarchs, and from the beginning the practice was continued in the Roman court, where men such as Sosigenes,[56] Thrasyllus,[57] and Balbillus[58] achieved considerable standing.

53 BMC Galatia, etc. Damascus, Philip (senior) no. 26, p. 287.

54 Cramer, ARLP, 63-4, citing Suetonius (Aug. 94,5); Cassius Dio (45, 1, 3-5).

55 English translation of Germanicus by D. Gain, The Aratus ascribed to Germanicus Caesar. For an edition of Cicero's Aratea, see J. Martin, (1956), p. 301.

56 Sosigenes is believed to have advised Julius Caesar on the calendar reforms. See Cramer ARLP, 75 quoting Pliny, NH, XVIII, 57, 21; and Macrobius, Sat. I, 14, 2.

57 Thrasyllus of Alexandria (d. A.D. 36). Tiberius met him in Rhodes and came to believe in him implicitly. Thrasyllus was also a writer, and the epitome of one of his treatises has been recovered. He probably also wrote a lapidary. Cramer, ARLP, 92.

58 Balbillus was the son of Thrasyllus and the friend of Claudius.

A favourable horoscope was an important asset for a Roman emperor, as it suggested he had been chosen by the gods from birth, predestined for imperial honours. Augustus was evidently willing to make public at least one aspect of his horoscope: Capricorn, the symbol that his might as a soldier was in fact a destiny, conferred on him at birth or conception by Mars. The special relationship between the emperor and Capricorn must have been common knowledge throughout the empire, but his birthday in the month ruled by Libra was also well-known, at least in court circles. Manilius and Virgil both refer to it, Manilius (Astronom. IV, 776) saying plainly that the emperor was born under the sign,[59] and Virgil (Georg. I, 33)[60] more obliquely allocating him space in Libra for a future apotheosis:

> " ... or whether as a new constellation
> thou wilt appear mid the lingering months[61] in the space
> lying vacant in between Erigone and the Claws, where for
> thee already the fiery Scorpion himself draws his arms in,
> leaving an ampler portion of heaven than thy share."

Virgil interprets Virgo as Erigone and refers to the old notion of the Claws of Scorpio as the Balance. He flatteringly suggests that the newer image of the Scales carried by a young god had been created for Augustus, who will one day be raised to a place among the stars of that sign. The image of the Scales carried by a deity had been used for fifty years or more when Virgil wrote the Georgics (above, p. 138) so his words are flattery rather than indicative of a new situation, but they do show that Virgil knew the month of Augustus' birth.

59 The emperor mentioned by Manilius is certainly Augustus, not Tiberius as suggested by Goold in the Loeb translation of Manilius (p. 284, n. "b"). I know of no evidence to suggest that the moon was in Libra at the birth of Tiberius, but that Augustus was born under Libra was stated by Suetonius. Concerning the birth of Augustus, Manilius merely says that Capricorn shone propitiously.

60 Translation A.F. Murison, Latin text on p.

61 "lingering months" is probably a reference to the phenomena of fast and slow rising signs, often mentioned in ancient treatises, e.g. Manilius, Astronom. III, 275-300. Goold in the Loeb translation gives a useful table on p. lxx to illustrate the doctrine. The signs Virgo and Libra rise slowest of all.

Succeeding emperors continued to take an interest in astrology, the horoscopes of some being preserved by ancient authors.[62] Because the stars were believed to control human destiny, the horoscopes of the particularly fortunate, or the tragically unfortunate, were a matter of interest. People were curious to know what factors had produced exceptional wealth or power, bestowed exceptional abilities, or made one man a charismatic leader, and sent another to a tragic doom. The horoscope of emperors and princes inevitably attracted attention, and laws were passed to forbid the casting of the emperor's horoscope except by his orders, lest the stars betray information that might be useful to a rebel with imperial ambitions. Cramer[63] notes that the law dated initially to 11 A.D., when there was evidently speculation concerning the health of Augustus. To put an end to rumour, Augustus banned astrological inquiry concerning the future of the ruler, and published his horoscope to "prove" that his death was not yet imminent. Other emperors had the same worry, and the law remained in force. In the fourth century A.D. Firmicus Maternus made a point of admonishing his readers not to use astrology illegally to harm the emperor or the state, and warning them that in any case such a course was impossible:[64]

> "In fact no astrologer is able to find out anything about the destiny of the Emperor. For the Emperor alone is not subject to the course of the stars and in his fate alone the stars have no power of decreeing. Since he is master of the whole universe, his destiny is governed by the judgement of the Highest God, since the whole world is subject to the power of the Emperor, and he himself is also considered among the number of gods whom the Supreme Power has set up to create and conserve all things.
>
> "This consideration also makes things difficult for the haruspices, because whatever divinity is invoked by them, since it is of lesser power, is not able to explain the character of the greater power which is in the Emperor. For all free-born

62 See Neugebauer and van Hoesen, Greek Horoscopes, for examples.

63 Cramer, ARLP, 99.

64 Mathes. II, xxx, 2; translation by Jean Rhys Bram.

> men, all classes, all the rich, all the nobles, all the officials, all powers serve him; endowed with divine authority and immortality he is numbered among the first ranks of the gods."

The emperors, however, could and sometimes did take an interest in the birth charts of prominent men who might be thought to have excessive ambition. According to Cramer,[65] Tiberius, Vespasian, Domitian, Septimius Severus and Caracalla all took steps to find out persons who had an "imperial horoscope" in order to neutralize them before they became dangerous.

Against this background of faith in astrology and mistrust of potential rivals, Dio Cassius (Ep. LXXVII, 11, 1) relates that Septimius Severus (193-211 A.D.) had his horoscope painted on ceilings in the imperial palace. Severus had been one of those with an "imperial horoscope", a dangerous asset while another emperor lived, and one that for a time had caused his removal from Rome. After he had been proclaimed emperor, however, his "imperial horoscope" was a valuable asset to be exploited, as it indicated that he had been chosen by the gods for this honour at birth. According to Herodianus (II, 9, 3), Severus published an autobiography describing the omens and predictions which had foretold his imperial future, and these things were represented in sculpture and painting on his public images.

The horoscope ceilings were evidently intended as political propaganda, for they were in the rooms in which the emperor held court. Dio Cassius was a senator in the reign of Septimius Severus and must have seen the work many times. The horoscope seems to have been shown as a zodiac, with the planets arranged in the signs they occupied on the day of the emperor's birth, 11 April, 146 A.D. The horoscope was painted twice, presumably in different rooms, but curiously, the two

65 Cramer, ARLP, 168-9.

representations were not quite the same. According to Dio Cassius, the part of the sky that "observed the hour" was shown differently on each!

The section of the sky said to "observe the hour" was the eastern horizon, in astrological terms the Ascendant,[66] which changes constantly throughout the day due to the earth's rotation, a new zodiacal sign rising every two hours. A princely natal chart could be recognized by the general distribution of the planets through the signs. Simply knowing the emperor's birthday would give access to that much information. To prepare a detailed horoscope, however, it was essential to know the exact time of birth, because the Twelve Places[67] used to predict the tides of good and bad fortune that would be encountered in any aspect of life had to be calculated from the Ascendant. This small but vital detail was apparently withheld or falsified, as Dio says it was shown differently on each zodiac. Without this information no predictions detrimental to the emperor's welfare could be made. Severus had faith in astrology and did not wish to turn a powerful tool against himself, but his desire to use his "imperial horoscope" as evidence of legitimacy had also to be satisfied. Dio Cassius did not say how the Ascendant was marked in the two zodiacs. A possible method is the one used for the zodiac horoscopes painted in the tomb of the brothers Ib-pmeny and Pa-mehit (below, p. 383 Fig. 74). The tomb horoscopes divided the zodiacs into two distinct halves, the signs in the top semi-circle of each presumably being those that were above the horizon at the time of birth. The Ascendant would be easily determined by the direction of rotation.

Septimius Severus, like Augustus, clearly regarded his horoscope as a matter of state importance, displaying it to be seen by the empire's

66 See Appendix A 4.

67 See Appendix A 12.

most influential citizens. Dio's brief record of the ceiling is significant for a study of zodiac iconography as it proves we may expect to find abstract astrological doctrines given visual expression in serious works of art.

Other emperors also decorated their palaces with images of the sky, though none have survived. Nero's famous Golden Dome "revolved constantly day and night like the heavens" (Suetonius, Nero, 31) and certainly had cosmological decoration, but our sources do not specifically mention the zodiac, so we will reserve discussion of the Golden Dome until a later chapter.

Two zodiac ceilings in Hadrian's Villa at Tivoli survived long enough to be drawn and published by M. Ponce[68] in the eighteenth century. The drawings suggest approximately square ceilings, probably executed in stucco, a medium that lends itself to the elegance and intricacy of the designs.

The first ceiling is arranged in concentric squares, the centre occupied by a roundel enclosing a figure in a quadriga racing over clouds (Fig. 48). The charioteer is perhaps Sol, though he is shown without a radiate crown. The central roundel is supported at the four corners by herms with bearded heads, whose bases point outwards to the corners of the room. There, the signs of the zodiac, placed in circles and ovals, are arranged in seasonal groups of three, one season in each corner of the room. The signs are in clockwise order, with the sign at the left of each group being the solstice or equinox. According to Ponce's drawing the iconography was conventional, except that the Scales were not held by a male or female carrier, and the Gemini were shown as twin babies. The latter is unusual in antique zodiacs, if the

68 M. Ponce, Arabesques antiques des bains de Livie et de la ville Adrienne, Paris, 1789, pls. 5 and 9.

drawing is to be trusted, but as the icon turns up again in later Islamic art, it may well be an accurate record. Hadrian spent some time in Syria early in his reign, so it is possible that an icon used there could have influenced both Hadrian's zodiac, and later Islamic representations.

The second of Hadrian's ceilings had a central medallion placed in a lozenge. The medallion contains a starry globe crossed by the oblique band of the zodiac. Only three signs are visible, with Libra centrally placed. Hadrian's birthday was 24 January, 76 A.D., so his natal sign was Aquarius, and the Libra is unlikely to refer to his horoscope. Libra, however, is the astrological Exaltation of the planet Saturn, and we shall see in later pages that this planet, known in Greek sources as Chronos, was associated with a god of Time of whom we shall hear a great deal in the chapters to come. Around the globe, four youthful dancers fill the corners of the lozenge, which in turn is supported by herms representing Pan. Both ceilings are also decorated with curling, leafy tendrils, birds and animals, garlands and urns, the effect luxuriant and playful. We shall return to these ceilings below (p. 284).

Hadrian's ceilings again reserve a place for the zodiac in imperial iconography. In contrast to the Capricorn of Augustus which proclaims the emperor's invincibility, these images suggest prosperity and a smiling destiny. Where possible Hadrian's policy was to renounce war and to give the empire a period of peace and consolidation following the military expansion of the previous reign. The ceilings seem to express the joys of a world at peace.

THE EMPEROR AS DIVINE HERO

COMMODUS-HERCULES

In 1874 a bust of the Emperor Commodus (177-192 A.D.) was found in the Villa Palombara on the Esquiline among the debris of a building from the period of Severus Alexander (222-235 A.D.). The work, now in the Palazzo dei Conservatori, Rome (no. 12) portrays Commodus as Hercules, wearing a lion's skin, the head covering his head, and the front paws knotted across his chest (Pl. 69). He holds a club in his right hand and three apples, one now lost, in his left. The softly modelled face is polished to a high finish; the expression is not warlike, but Dio Cassius (LXXIII, 15, 2) assures us that Commodus gave himself the name Hercules, among others.

The solid expanse of the emperor's body rests on an apparently fragile base, built up from a complex of discrete objects. A small shield is surrounded by crossed cornucopia, which in turn rest on a starry globe portraying three signs of the zodiac. Shield, globe and cornucopia were supported on either side by kneeling Amazons, now partly lost. The signs portrayed on the globe are Scorpio, Capricorn, and a butting quadruped with long, curved horns, representing Aries. The signs are not in sequence and as the reasons for choosing them have not been obvious, they have occasioned a good deal of speculation. Stuart-Jones[69] described the choice as "difficult" but felt that the suggestions made by Visconti,[70] who found and published the sculpture, were the best so far. Visconti proposed that Capricorn represented the month in which Commodus was first associated in the empire with his father, Marcus Aurelius, on the occasion of the triumph for the German and Sarmatian victories (23 December, 176 A.D.); Scorpio represented the

69 H. Stuart-Jones, Catalogue Palazzo dei Conservatori, 140.

70 P.E. Visconti, Bull. Comm. III, 1875, 11 ff.

month sacred to Hercules in the calendar of Commodus; and the third sign, which he suggested was Taurus, he proposed might represent the month of the foundation of Rome, or perhaps the second foundation of Rome as Colonia Commodiana. Thus, Visconti based his theory on the assumption that the signs must represent significant dates in the life of Commodus or Rome.

The weakness of this theory is that no clear theme links the signs to each other or to the portrait of Commodus-Hercules. When the third sign is recognized as Aries rather than Taurus, however, the connection is obvious: the signs are the three dedicated to the planet Mars, who had long been assimilated to Hercules. Classical astrology recognized three positions of enhanced power for each planet, that is, the Exaltation and the two Houses. Capricorn as the Exaltation of Mars is already familiar from the iconography of Augustus. The Houses of Mars have also been mentioned, though more briefly, in relation to the zodiac coinage (above, p. 165-6) the Day House being in Scorpio and the Night House in Aries. (For the planetary Houses, see Appendix A.3).

The assimilation of Mars and Hercules is well-attested, as Greek texts use the name Heracles for the planet as often as the name Ares, and Pliny (NH II, 34), writing in Latin, also mentions that some refer to the planet Mars as Hercules. The assimilation of Hercules to Mars-Nergal in the Near East was discussed by Seyrig,[71] who drew attention to some Palmyrene tesserae and to the inscriptions of Nimrud Dagh,[72] where the assimilation is specifically stated. He also noted that Melkart of Tyre was said by Herodotus (II, 44) to be a form of Hercules, while Nonnos (Dionys. XL, 367) refers to him as Astrochiton, Starclad Heracles. For Rome we have the testimony of Macrobius (Sat. III, 12, 1-5) who wrote that the pontifs identified Hercules and Mars, and that

71 H. Seyrig, "Heracles-Nergal" Syria, XXIV, 1944-5, 62-80.

72 L. Jalabert et R. Mouterde, IGLS, I, 1, 55.

the group of priests known as the Salii were dedicated only to the service of Mars, but were therefore in the service of Hercules, and performed sacrifices to him.

The bust of Commodus, when understood as referring to Hercules-Mars, presents a unified whole, the three zodiacal signs Scorpio, Capricorn and Aries, being as much attributes of the deity as the club and lion-skin. Several emperors, including Nero, Commodus, Septimius Severus, Caracalla, Elagabalus and Severus Alexander identified themselves with Hercules,[73] and Commodus was deified under the name Hercules-Romanus.[74] It has been suggested that the bust may have been executed after the death of Commodus,[75] in which case it should perhaps be considered an apotheosis monument, portraying Commodus deified as Hercules-Romanus, assimilated in the zodiac to the planet Mars.

THE ABUKIR MEDALS

At the beginning of the twentieth century a hoard of twenty gold medals was found at Abukir, not far from Alexandria. Initially certain scholars, including Svoronos, doubted their authenticity, but after examining five that had been purchased for the Berlin Museum Svoronos[76] expressed his conviction that the medals were genuine, and published a complete set of photos of the twenty medals, which are presumed to date from the Roman imperial period.

The high cost of producing such magnificent gold objects suggests that they were made for an emperor, and perhaps intended as gifts or

73 C.C. Vermeule, "Commodus, Caracalla and the Tetrarchs", Festschrift für Frank Brommer, 1977, passim.

74 H. Stuart-Jones, Cat. Palazzo dei Conservatori, 139.

75 Ibid., 140.

76 J. Svoronos, "ΤΑ ΝΟΜΙΣΜΑΤΟΣΗΜΑ ΤΟΥ ΑΒΟΥΚΙΡ" Journal international d'archéologie numismatique, X, 1907, 369 ff.

prizes. Only three need concern us. These had different reverses but showed one obverse design. Beginning with the reverses, a sea-nymph riding on the back of a partly-human sea-monster was on one; two winged figures built up a pile of war-trophies on a second, and a procession occupied the third. The latter two carried the Greek inscription ΒΑΣΙΛΕΩΣ ΑΛΕΞΑΝΔΡΟΥ . All three reverse designs were rendered in a Hellenistic manner, the sea-beasts typically in the style of Hellenistic Alexandria.

The obverse portrays the bust of a young man holding a spear and shield, frontally posed in the manner of the Alexander portraits, but with less refined features. The shield is decorated around the perimeter with the zodiac. Only a portion of it appears above the edge of the medal, but the spring and summer signs, from Aries to Leo, are visible (Pl. 70). The features are clearly not those of Alexander; rather, one would guess that they represent the later Roman emperor for whom the medals were struck.

Before considering who the emperor might be, a few words concerning the interest in ancient weaponry that flourished in antiquity will be helpful. Pfister[77] noted that weapons associated with the names of ancient heroes were reverently preserved in many places throughout the empire. Of the long list of examples than he collected, we append here a sampling:

the lance of Achilles, Temple of Athena, Phaselis (Paus. III, 3, 8);

the lance of Meleagros, Temple of Apollo, Sikyon (Paus. II, 7, 8);

the lance and helmet of Odysseus, Temple of the Dea Syria, Engyion, Poseidonios (Plut. Marcell. 20, and Strabo, III, 157);

the sword of Memnon, Asclepion, Nikomedia (Paus. III, 3, 8).

77 F. Pfister, Der reliquenkult im Altertum, 1912, ch. IV.

Alongside this general interest in ancient weapons, several Roman emperors displayed a specific interest in Alexander the Great, identifying themselves with him in various ways. We will confine our attention to three: Caligula (37-41 A.D.), Nero (54-68 A.D.), and Caracalla (212-217 A.D.).

Ancient accounts mention that Caligula claimed from time to time to be wearing the actual armour of Alexander. Dio Cassius (LIX, 17) described the incident in which Caligula built a bridge of ships between Puteoli and Bauli, and wrote:[78]

> "When all was ready he put on the breastplate of Alexander (or so he claimed) and over it a purple silk chlamys, adorned with much gold and many precious stones from India."

Suetonius (Caligula 52) also knew of Caligula dressing up as Alexander, but mentioned it in a more general context:[79]

> "Now for his triumphal robes and ensigns, he used verily to wear and bear them continually, even before any warlike expedition, and sometimes the cuirass withal of Alexander the Great, fetched out of his sepulchre and monument."

Caligula's claims to possess Alexander's armour might well have been the truth. After Alexander's death in Babylon, Ptolemy took his body to Egypt and constructed a monumental tomb for him in Alexandria. With that city under Roman occupation Caligula would certainly have had access to the tomb, though if he did rifle it for the armour, he may have been obliged to act secretly, which would explain the lack of reference to such an incident. Nevertheless, an epigram written by Antipater of Thessalonika also mentions a weapon of Alexander's in the hands of a Roman:[80]

78 Loeb trans., E. Cary.

79 Loeb trans., J. H. Freese.

80 A.P. 9, 552. My thanks are due to Miss Mary Plastira for drawing this epigram to my attention.

"Macedonian is the sword's iron,
and from Alexander's hand it has learnt what makes for valour,
And now Piso, I have reached your hand that I yearn for,
and these words I speak,
'To my delight I have found the destined hand'."

Antipater flourished around 10 B.C.,[81] so Alexander's tomb may have been rifled well before the reign of Caligula, perhaps at the death of Cleopatra.

There is no record of Nero claiming to wear Alexander's armour, but Suetonius (Nero, 19, 2) does mention that he created a legion composed only of Italians six feet tall, which he called the Phalanx of Alexander.

More than one hundred years later, Caracalla, too, was to identify himself with Alexander and Achilles when he was touring Thrace and Ilium. In Thrace Herodian (IV, 8, 1) reported having seen paintings of a being whose head had two faces, one of Alexander and one of Caracalla.

Of these three emperors the face on the medallion resembles Nero more than the fragile Caligula or the bearded Caracalla. If successive generations of Romans had gradually been removing pieces of armour from Alexander's tomb, there may not have been much left by the reign of Caracalla, in the early third century A.D. Suetonius (Calig. 52) seems quite certain that armour had been taken from Alexander's tomb, and such items may have been in the possession of the imperial house. The tomb was doubtless well-stocked and removing the items in small numbers - a sword during the reign of Augustus, a breastplate in the time of Caligula, a shield in Nero's reign - might prevent an outcry or scandal.

In the context of this study, the identity of the emperor on the medal is less important than the question of whether Alexander really

81 Piso is believed to have been one of the companions of Tiberius.

had the zodiac on his shield. The style of portraiture on the medal is clearly a reference to the Alexander portraits, and the shield is given prominence at the front, suggesting that Alexander was thought to have had such a shield. The zodiac as the path of the sun, moon and planets was well-known by the time Alexander visited Babylon in the fourth century B.C. Priests other than astronomers had become interested in the zodiac cycle as distinct from the other divine constellations. The first horoscopes had been cast, and a system devised linking certain incantations with specific zodiacal signs (p.112-3). In Alexander's day these ideas must have had the aura of powerful new instruments recently made available by science. Alexander was apparently impressed by the accumulated wisdom of the ancient eastern civilizations, and it is a reasonable guess that the Mesopotamian priests would check the birth chart of Alexander and declare that the stars had pronounced his world rulership even at his birth. Alexander might well desire to have this new and powerful Mesopotamian discovery, the zodiac, emblazoned on his shield.

One other piece of indirect evidence is worth mentioning. Demetrius Poliorcetes, who evidently aspired to succeed Alexander as philosopher-king, also visited Babylon and it is recorded that afterwards he wore a chlamys decorated with the signs of the zodiac (above, p. 116). This may have been in imitation of an idea adopted by Alexander, or it may simply mean that both men were influenced by trends they had seen in Babylon. It is significant that from Alexander's time onwards, the zodiac achieved increased popularity in the Greek world.

Alexander's shields must have accompanied his body to the tomb in Alexandria, and their decoration must have been familiar to those who visited the tomb. Whether or not a shield was removed at the whim of an emperor in the imperial period, the medallion may well represent a true picture of one of Alexander's shields.

THE EMPEROR TRANSLATED TO HEAVEN

At the beginning of the empire Roman art began to develop an iconographic vocabulary suited to the portrayal of an imperial apotheosis, for Roman emperors were almost invariably venerated as gods, either accorded divine honours during life, or declared to be gods after death. In 44 B.C. when games dedicated to the memory of Julius Caesar were being held in Rome, according to Suetonius (Caesar, 88) a comet appeared which remained in the sky for seven nights, and was popularly supposed to be the deified Caesar. The oldest imperial apotheosis monument is the Belvedere altar, now in the Vatican museum,[82] which portrays the soul of Julius Caesar ascending in a chariot drawn by winged horses. According to the inscription, the altar was erected by the senate and people of Rome when Augustus (mentioned as the son of the deified Caesar) was Pontifex Maximus. Apotheosis monuments were to become an important branch of imperial art, dealing not only with the ascension of the emperor himself, but sometimes including a deceased wife or heir. Two examples claim our attention, as the zodiac was used among the other symbols.

THE APOTHEOSIS OF ANTONINUS PIUS AND FAUSTINA

The monument was designed as a sculptural relief for the base of a memorial column. The emperor and empress are borne aloft on the outspread wings of a youthful male deity, who is naked except for some drapery thrown over the left arm. In his left hand the deity holds a celestial sphere encircled by the zodiacal band, and though the god's hand and wing cover most of the signs, Pisces, Aries and Taurus are visible. The crescent moon and five stars, presumably the planets, dot the surface of the globe, relegated to the field outside the zodiac

82 Cortile del Belvedere, no. 87b. See Amelung and Lippold, Sculpt. Vat. II, 242-247.

for decorative convenience. The young god has been given one other important attribute: a serpent whose raised head points to the head of the god is coiled about the globe, with his tail cascading over the deity's hand. We shall see in a later chapter (Ch. 10) that the zodiac and serpent were the attributes of a god of Time, who was evidently recognized in several pagan cults.

In the lower left corner of the relief a semi-draped figure is shown reclining on his left elbow. His right hand and arm support an obelisk whose pointed tip is surmounted by a ball, distinguishing it as the obelisk used for the gnomon of the great sundial constructed for Augustus in the Campus Martius (p. 201). On the basis of this attribute the reclining figure was recognized not long after the monument's discovery in the eighteenth century as the personified Campus Martius,[83] the area in which the apotheosis monument to Antoninus Pius and Faustina was first erected, the site of the imperial funeral pyre, and the place where the consecration ceremony was held. The feet of the winged deity bearing aloft the imperial couple are still touching the Campus Martius, from which the journey is about to begin (Pl. 128).

The ascent is witnessed by a second figure, the goddess Roma, who wears a chiton fastened on the left shoulder, leaving the right breast free, and a baldric supporting a sword slung across her chest. C.C. Vermeule[84] suggested that the figure was created under the general influence of the cult statue of Roma, and noted the resemblance to the Roman figures personifying Virtus, one of which we shall consider in the next chapter (p. 197 and Pl. 77).

83 For bibliography and discussion, see L. Vogel, The column of Antoninus Pius, 1973, 32 and note 2 on p. 117.

84 C.C. Vermeule, The goddess Roma in the art of the Roman empire, 1959, 89.

Two large birds standing one on either side of the emperor and empress complete the scene. The heads of the birds had been broken away in antiquity, but were plausibly restored in modern times with the heads of eagles, often portrayed in ancient scenes of apotheosis as the means, either with or without the use of a chariot, by which the dead were carried up to heaven.[85]

On the column base, Antoninus Pius and Faustina are carried upwards by a winged deity rather than by eagles, but the birds were apparently such well-known symbols of apotheosis that they were included as well. Indeed they, like the Campus Martius and the witnessing Roma, were probably integral parts of the consecration ceremony, as it seems that on such occasions an eagle was customarily released from the top of the funeral pyre to symbolize the rising of the departed soul. Thus Vogel[86] noted the account by Dio Cassius (75, 5, 3-5) of the release of an eagle at the funeral of Pertinax, and a mention of the same occurrence by Herodian (Hist. IV, 2, 11) at the cremation of Septimius Severus. The various components of the relief are evidently a pictorial reference to the climax of the ceremony of consecration: the departing souls of the emperor and empress, under the protection of a winged god, rise from the Campus Martius as the eagles are released from the funeral pyre, and the assembled people of Rome, symbolized by the city's tutelary deity the goddess Roma, witness the proceedings.

The globe with the zodiac in the winged god's left hand is at once an attribute of the deity who carries it (Ch. 10, below) and an indication of the destination of the ascending souls. The signs portrayed, Pisces, Aries and Taurus, surround the point of the spring equinox, the time of the rebirth of nature and the renewal of

85 For a collection of examples, see Vogel, op. cit., 44-5.

86 L. Vogel, op. cit., 40.

terrestrial life, suggesting the beginning of a new existence for the emperor and empress. Comments affirming that pious souls ascend to bliss among the stars abound in Greek and Roman literary sources and will be examined in later chapters. In particular, the reward of celestial happiness was said to be both certain and appropriate for those who had faithfully served their country, an idea expounded by Cicero in his description of the visionary Dream of Scipio (Rep. VI, 9 ff). A Roman emperor, even in life, was regarded as nearer to god than man (above, p. 173), and for him the ascent was doubtless to even more exalted regions.

The zodiac in the apotheosis relief, though small, is a significant part of the symbolism, as it suggests the outcome of the events recorded in the relief. Its importance in the context can be appreciated by noting that it was used in several of the extant monuments of this emperor. The Alexandrian series of zodiac coins, issued by Antoninus Pius in 144/5 A.D. for the beginning of the new Sothic cycle, has already been described, but two medallions struck for the same emperor warrant a mention here. Both have the head of Antoninus Pius on the obverse. The reverse of one shows a reclining Tellus with cornucopia, surrounded by the four seasons portrayed as children. In a zone at the top are five zodiacal signs, Aries, Taurus, Gemini, Cancer and Leo, signifying the months of spring and summer.[87] The obverse of the second medallion shows a standing, semi-draped figure holding a sceptre in the left hand and supporting with his right a large oval ring through which the seasons step. We shall see in a later chapter that the oval ring represents the zodiac, and that portrayed in this way it is the attribute of a god of Time, who among his other attributes also has a serpent, a sceptre and the seasons. The god with the zodiac ring on the medallion is the same as the winged deity on the relief, an argument to which we shall later return.

87 H. Grueber and R.S. Poole, Roman medallions in the British Museum, 1874, pl. XI, 2.

THE APOTHEOSIS IVORY

A second image of imperial apotheosis which includes the zodiac is carved on an ivory diptych, now in the British Museum (Pl. 68). The relief is arranged as three scenes which interlock and overlap. At the base of the panel the statue of the deceased emperor, protected by a canopy, is placed on a carriage drawn by four elephants. The emperor is seated on a carved throne and holds a sceptre in one hand and a palm branch in the other. Behind the elephants rises the funeral pyre, and from it the emperor's naked soul is carried aloft in a quadriga, accompanied by two eagles, presumably released from the funeral pyre as Dio Cassius described (above, p. 187). At the top of the scene the emperor is shown again, this time fully clothed and borne aloft by two winged gods. These have been called Sleep and Death, but there can be no doubt that Cumont was right in recognizing them as Winds.[88] Their winged foreheads match the iconography used for Wind gods, and as we shall see later (p. 222) the winds were thought to assist souls in their descent to earth and reascent to heaven. A section of the zodiac arches across the top left corner, displaying the autumn-winter signs from Libra to Pisces. To the left of the zodiac five deities, presumably representing the planets, welcome the emperor to the sky.

Only six of the twelve signs were shown, but these were chosen to harmonize with the overall theme. The zodiac representing the twelve months of the year was also used symbolically to portray the cycle of life and death. The symbolism is easily grasped. The annual excitement of burgeoning new life in the spring, the oppulence of summer, and the gradual decline of vegetative life from the beginning of the autumn is part of human experience. We shall see, however, that zodiacal symbolism was taken much further than this. The autumn equinox

88 F. Cumont, Lux perpetua, 297.

in Libra became a symbolic entrance to the next world, and the signs from Libra to Pisces were regions under the control of the infernal deities. The evidence for these ideas will be discussed in sections to come. For the moment it will suffice to point out that the emperor's exit from terrestrial life has been placed under the auspices of signs in which nature's power to generate life is at its lowest ebb, and that the series ends just before the spring equinox, in which life begins again. If the remaining signs of the zodiac were depicted on the diptych's lost leaf, then one may assume that segment portrayed a scene from the emperor's life, or that of his successor.

The zodiac images indicate a date towards the end of antiquity. In earlier works the figures of Libra and Aquarius would have been nude, but here they are fully clothed. The Pisces are in an odd position, touching at the gills to form an X,[89] and Capricorn is portrayed as a goat rather than a goat-fish. The latter, as we shall see later, suggests that the diptych was carved under Near Eastern influence, and this agrees with the Byzantine style of the work as a whole.[90] The elephants drawing the emperor's carriage merit attention, as these beasts seem to have been associated with the two ideas of triumph and apotheosis.[91] In mythology, the triumphant return of Dionysus from India was accompanied by elephants, and associated in popular imagination with Alexander's return from the same country. Alexander's funeral cortege was decorated with elephants, though not accompanied by live beasts, but the great procession organized by Ptolemy II in Alexandria during the 270s B.C. personified Dionysus on an elephant's back, and Alexander in an elephant-drawn chariot. Elephants were regarded as pious animals, worshippers

89 A combination of fish and cross suggests a Christian symbol, but pagan symbolism seems to predominate in the image as a whole.

90 The identity and date of the emperor is still disputed.

91 Most comments concerning the elephant are due to H. Scullard, The Elephant in the Greek and Roman world, 1974, 254-257.

of the sun and moon, and had been used in religious processions in Rome from before the empire. In later centuries, the triumph of Dionysus, with elephants, became a popular theme on Roman sarcophagi, presumably symbolizing victory over death. A coin minted by Tiberius in 34/5 A.D. and again in 36/7 A.D.[92] showing a statue of the deified Augustus on a throne in an elephant quadriga is of some interest, as it indicates a precedent for the imagery of the diptych. The theme recurs on later coins. In A.D. 55 Nero[93] portrayed the deified Augustus and the deified Claudius side by side on an elephant quadriga, and Titus[94] in A.D. 80/1 used the same motif to depict the deified Vespasian. The evidence suggests that the elephant quadriga was a well-established symbol of apotheosis.

* * *

In imperial iconography the zodiac was used as a sacred symbol, its iconographic message concerned with the relationship of the emperor to the gods. The zodiac had three symbolic functions. First, it was a sign of the emperor's piety, referring on some monuments to a specific deity. Somewhat surprisingly, the two deities most unequivocally evoked by extant imperial zodiacs were Mars and Aion; Mars by Augustus and Commodus, and Aion by Hadrian and Antoninus Pius. A chapter will be devoted to each of these deities, so they need be discussed no further here. Secondly, the zodiac was used as a token of imperial legitimacy, because it could suggest that the emperor had the support of the gods. This theme was of greater importance to those emperors who had achieved power by warfare. It is dominant in the horoscope ceilings of Septimius Severus, but is equally to be discerned in the early Capricorn

92 H. Mattingly, Coins of the Roman empire, Tiberius, no. 125, pl. 25, 2.

93 Ibid. Nero, no. 7, pl. 38, 4.

94 Mattingly and Sydenham, RIC, Titus, 143, pl. IV, 61.

monuments of Augustus, where Mars was Victor and Avenger, establishing an empire for Augustus to rule. Thirdly, the zodiac could allude to the emperor's own divinity. This applies especially to apotheosis monuments, where the zodiac not only suggests the destination of the emperor's soul, but implies his divine right to celestial bliss.

The imperial zodiacs have indicated a theme of major significance that will emerge more strongly in succeeding chapters. This is that the zodiac could be manipulated in small ways to express astrological or theological ideas. Augustus chose to symbolize Mars by the deity's planetary Exaltation, and on the bust of Commodus-Hercules, the assimilation to Mars was acknowledged by portraying the planet's Exaltation and two zodiacal Houses. Dio Cassius preserved for us a brief description of the horoscope ceilings in the palace of Septimius Severus, but of greater importance to our study of zodiac iconography was his statement that the two horoscopes each had a different sign as the Ascendant. This indicates that systems for portraying the various astrological doctrines were indeed used in antiquity, and that an analysis of the material with this in mind can yield useful results. Finally, on the ivory diptych we saw that a scene referring to death and apotheosis was placed under the signs of autumn and winter, when nature itself passes through an annual period of decline and dormancy. We shall find these themes supported and developed by material to be examined in the following chapters.

Chapter seven MARS

Ovid's description (Fasti V, 550 ff) of the magnificent temple Augustus built for Mars in fulfilment of his vow (above p. 153) indicates that the emperor was generous in repaying his obligation. Today, the ruins of the temple can only suggest its former grandeur, though the Capricorns stamped on the imperial coinage and adopted into the legionary insignia still acknowledge the emperor's devotion to Mars. We shall see now some other works created to honour the warrior deity of the red planet.

THE VATICAN TORSO

In 1825 an antique torso in yellowish marble was discovered in the foundations of the teatro Valle, and has since been placed in the Vatican Museum (Museo Chairamonti 592). The head, arms and legs were lost entirely, but the torso, a powerful male body in a standing pose, was of fine workmanship in a classical style. Vestiges of the limbs suggest that the body weight was supported on the right leg, with the left leg slightly relaxed; the left arm was lowered and the right arm was directed somewhat away from the body. The torso was nude except for a baldric slung diagonally across the body from the right shoulder to the left hip, and it is this baldric that brings the torso to our attention. It was decorated with the twelve signs of the zodiac, each in its separate compartment, beginning with Pisces at the shoulder and running down to Aries at the hip (Pl. 72). It is a soldier's baldric, of the kind used to support a sword, but at the same time it seems to be an analogy for the oblique band of the zodiac encircling the celestial sphere.

Minus head and limbs, the Vatican torso has no attributes other than the zodiac baldric and its nudity to guide an identification. It is usually taken to represent Helios-Apollo, but a closer examination of the zodiac iconography suggests a different deity. The orientation of the

zodiac weighs strongly against the possibility that the deity was a sun god, as Aries, the sun's astrological Exaltation, has been placed out of sight on the lower hip, and even Leo, the House of the sun, is in an inconspicuous position below the waist. As our study progresses we shall see more and more evidence that such details were considered important. The planets, or the sun or moon, while travelling through the zodiac were thought to attain great power in some signs, but to be rendered impotent or powerless in others (see Appendix A 2. and A 3.). The statue of a sun god would hardly stress as attributes those signs in which the deity was weakened. A solar deity would have had Aries on the shoulder, and Leo in a prominent position on the chest. Indeed, the great majority of antique zodiacs were oriented to place Aries at the top of the cycle, this one being unusual in its orientation. The choice of the reverse scheme for this work must have had significance.

The zodiac baldric suggests that the figure represented one of the celestial deities whose path lay through the zodiac. The figure is male, so it cannot represent the moon or Venus, and we have seen that the orientation of the zodiac would not be suitable for the sun. Beginning the sequence of signs on the shoulder with Pisces, and then working backwards through the winter, autumn and summer months before arriving at spring on the hip suggests that the figure can only represent one of the two planets Exalted in the winter signs at the southern end of the zodiac cycle, that is, it must be either Saturn or Mars. Saturn was customarily depicted as a clothed figure, so Mars is the better candidate. He was often portrayed nude and the zodiac baldric is a perfect attribute for a war-god who is also a planet. The orientation of the zodiac is well-suited to Mars, as Capricorn, the Exaltation of Mars and Scorpio, the Day House of Mars, are well-placed on the breast.

Mars was one of the ancestral gods of the Romans, said to be the

father of Romulus, and therefore of the Roman people. He was regarded as a protector of Rome, and the bestower of imperial power through military strength. We have seen in the previous chapter (p. 153) that the family of Augustus had a special position in the worship of Mars at Velitrae, and that Augustus himself had built two temples for the god in fulfilment of a vow. At some time prior to the beginning of the empire Mars had been identified with the red planet[1] that still bears his name, and thus Augustus had been able to stress the relationship between himself and the war-like planetary god by using Capricorn in his imperial iconography.

Preparations for building the great Temple of Mars began as early as 37 B.C.,[2] but the selected site over-ran privately owned land, and buying it took years of negotiation. The temple was finally dedicated in 2 B.C., but in the meantime, the recovery of the Roman standards from the Parthians in 20 B.C. evidently required instant recognition, so a small, circular temple with a dome was erected for Mars on the Capitol, and the standards were placed in it. The domed temple and its cult statue appeared on the imperial coinage at the time[3] (Pl. 73), and reappeared intermittently over the next few years. In 17 B.C. a coin issue apparently portrayed the same cult statue, standing on a low pedestal, though the temple itself was not included (Pl. 74).

The cult statue shown on the coins between the years 20 and 15 B.C. is evidently from the round temple built in 20 B.C. It had a standing pose, the body weight taken mainly on the right leg, with the left leg relaxed. The right arm was slightly raised to support a spear, and the left arm bent at the side to carry an object described in the coin

1 This probably occurred when Mars was identified with Aries.

2 D.R. Dudley, Urbs Roma, 127.

3 BMC, Augustus, no. 366.

catalogues as a parazonium.[4] The figure is nude except for a helmet and some drapery over the left arm. Attributes such as the helmet and spear may have been separate items in other materials, as on some coins the spear was replaced by the standards (Pl. 73) or a vexillum.

The statue of Mars portrayed on the coins of c. 20-15 B.C. agrees quite well with the pose of the torso wearing the zodiac baldric, and although such a pose was not uncommon, it is possible that the fine marble torso in the Vatican Museum may have come from the small temple of Mars the Avenger on the Capitol. The workmanship is of high quality, and it was evidently an important object. The zodiac baldric is in sympathy with other symbolism used by Augustus for Mars, such as the choice of Capricorn for the legionary insignia, as well as for the symbol of the deity's good-will towards himself on the coins and gems. The clarity and simplicity of the sculptural style relates well to other works of the period, and the figure's nudity also suggests an early date, as later coins portray a cuirassed Mars.[5]

Two other examples of the zodiac baldric have survived. One is a small fragment of a marble torso discovered in 1930 on the Capitol. The tooled leather edge of the belt is clearly marked, but the fragment conserves only one sign, the Gemini, and below it the tip of an adjoining sign, of which too little remains to guess the identity (Fig. 43). If Monaco[6] is correct in identifying the fragment as a portion of a left shoulder, the sculpture is different from the Vatican torso, where the

4 The object is difficult to identify on the coins, but appears on each rendering, so was apparently part of the statue's normal paraphenalia. According to Vermeule, the parazonium, or sheathed ceremonial sword, was only carried by Virtus or the emperor. See, "Roman cult images on the coins of the emperor Hadrian; Mars Ultor, Virtus, and Mars Victor", Numismatic circular, July-Aug. and Sept. 1955.

5 Coins issued in the reign of Hadrian and thought to represent the cult statue (see Vermeule, ibid.) portray Mars in full armour.

6 G. Monaco, "Frammenti di sculture marmoree dalle pendici Capitoline", Bulletino della Commissione Archeologica del Comunale di Roma, LXIII, 1935, 106.

baldric was slung over the right shoulder. The sword was normally suspended from the right shoulder, but two straps could be worn, one suspended from the right, and one crossing it from the left shoulder to carry other equipment.[7] If the fragment is indeed a left shoulder, crossed belts must have been portrayed.

VIRTUS

The third zodiac baldric is portrayed on a large fragment of marble relief preserved in the Villa Medici. It is a corner piece from the upper left-hand side, apparently from a great sculptural frieze. It retains two figures, one an image of Virtus, facing towards the front, and the other a man in military costume seen from behind. Virtus, a goddess personifying manly courage, is dressed as usual in a short, belted tunic that falls from the left shoulder to leave the right breast bare. A mantle fastened with a fibula on the left shoulder drapes over the left arm and partly covers a baldric, which is slung over the right shoulder and passed under the left breast. She wears a crested Attic helmet, the headpiece delicately engraved with amorini, and the crest supported on a sphinx. The goddess has a sword at her left side and holds a legionary standard topped with an eagle and thunderbolt in her right hand. The man at her left is covered in the ample folds of a military cloak and bears a spear over his left shoulder. His face and close-cropped head[8] have sustained some damage (Pl. 77).

The baldric worn by Virtus is divided into compartments decorated with the signs of the zodiac. The mantle covers the left breast and the compartments begin near the edge of the mantle. The first compartment is decorated simply with three studs, and the zodiac begins in the second

7 Homer (Il. XIV, 404) says that Hector threw his javelin at Ajax and struck him where the two bands crossed, thus the weapon did not penetrate.

8 M. Cagiano de Azevedo, Le Antichita de Villa Medici, no. 21, is of the opinion that the head was altered at some later stage.

compartment with Scorpio, the House of Mars, and follows through Sagittarius, Capricorn, Aquarius, and ends with Pisces on the shoulder, precisely the orientation of the zodiac on the baldric of the Vatican figure. The nudity of the Vatican torso demanded that the belt portray the whole zodiac cycle, but the baldric of the semi-draped Virtus concentrates only on that segment of the zodiac which is of iconographic significance to the relief, that is, the segment containing Scorpio and Capricorn. Virtus here is assimilated to Mars, and her iconography supports our identification of the Vatican torso as Mars.

Cagiano de Azevedo[9] suggested that the relief was a portion of a major decoration portraying a triumph or other peaceful military occasion. Technically, it is of high quality, with softly modelled contours, and characterized by the same classic simplicity of style as the Vatican torso. Indeed, they probably date to approximately the same period, as the iconography of the two pieces is undoubtedly complementary.

Here, it is appropriate to recall briefly the bust of Commodus as Mars-Hercules (above, p. 178-80), which was identified with the warrior planet by the celestial sphere decorated with the signs Scorpio, Capricorn and Aries. The zodiac baldric, which as an attribute for Mars seems to go back to the Augustan period, was not suitable for this rendering as Hercules, a club user, did not need a baldric, so the planet's astrologically significant signs were added to the globe instead. The twin figures of Virtus supporting the complicated stand show that this goddess had become a part of Mars' iconography, and may indeed refer to the relief discussed here, which was undoubtedly from an important public monument and must have been well-known in Rome. It is instructive to compare the agitated drapery of the robe of Virtus on the bust of Commodus with the classical

9 Ibid.

rendering of the draperies on the relief. This stylistic detail highlights the difference in age between the two, and assigns the relief to the period around the beginning of our era.

An Augustan date for representations of the zodiac baldric is supported by an allusion in the Astronomica of Manilius. The poem is believed to have been written during the later part of the reign of Augustus, and the early part of Tiberius' reign, with Augustus certainly alive during the writing of Books I and II.[10] In defining the colures and other great imaginary circles of the sky, Manilius (I, 679) contrasts them to the zodiac, saying that where the former must be grasped by the mind alone, the zodiac is perceptible to the eyes, as

> "throughout its mighty circuit it shines like a baldric studded with stars and gives brilliance to heaven with its broad outline standing out in sharp relief." (Goold, Loeb trans.)

The description is poetic rather than true. The contour of the zodiac does not stand out in sharp relief, and one can only assume that Manilius was influenced by works such as the Vatican torso, or perhaps even by an imperial baldric decorated with the zodiac.

At this point a summary of the evidence in tabular form will emphasize the logic of identifying the Vatican torso with Mars.

a) The zodiac baldric on the Vatican torso is upside down in relation to normal zodiac iconography, as it places winter-autumn in the most conspicuous position.

b) Because the arrangement was unusual (and was repeated on a comparable example) it must have had significance, but could only suit a deity Exalted in the southern half of the zodiac, that is, Mars or Saturn.

c) The baldric is part of a warrior's equipment, so Mars is the more logical choice.

d) Exactly the same orientation of the zodiac was used on the baldric worn by Virtus but the iconographically unnecessary signs of spring and summer were eliminated altogether.

e) Virtus, shown attending a military occasion, is assimilated to Mars, another aspect of the war-god's personality.

10 G.P. Goold, see the introduction to the Loeb edition, p. xii.

f) Virtus, wearing the zodiac baldric, is assimilated to Mars, therefore the masculine Vatican torso with the similarly-oriented baldric, represents Mars.

A similar list will facilitate a grasp of the evidence for dating.

g) Manilius, writing in the reign of Augustus, likens the zodiacal belt to a starry baldric, which suggests a familiarity with the icon.

h) As an icon, the zodiac baldric is in harmony with the use of Capricorn as an emblem of Mars on the Augustan coinage and legionary standards.

i) Stylistically, the work seems to belong to the Augustan period.

On the evidence of the coins I have suggested that the Vatican torso was probably the cult statue from the round temple of Mars on the Capitol. Presumably, this temple became obsolete when the great temple was dedicated in 2 B.C. and initially the same cult statue may have been taken to the new site. The new building is known to have been lavishly enriched with sculptural decoration, which may have included the Virtus with the zodiac baldric. The Vatican torso and the Medici Virtus are conceptually akin, and may well have shared the same temple. Later, perhaps a new cult statue was created for the new temple. Coins of the Emperor Hadrian (117-138 A.D.) show an image of Mars[11] thought to represent the cult statue from the temple on the Campius Martius.[12] The god was portrayed in full military costume and with his right arm in a slightly different position from the statue on the coins of Augustus. Hadrian's Mars corresponds closely to a statue of Mars in Parian marble, now in the Museo Capitolino, which Stuart-Jones dated to the second century A.D. It is known that Hadrian refurbished the Temple of Mars and an amusing anecdote preserved from antiquity suggests that the Museo Capitolino Mars may date from that reign. The Temple of Mars, it seems, had been used as a bank for private deposits,[13] and Juvenal (Satires,

11 BMC, Hadrian no. 109, pl. 49, 1.

12 C.C. Vermeule, "Roman cult images on the coins of the Emperor Hadrian; Mars Ultor, Virtus, and Mars Victor", Numismatic circular, July-Aug. and Sept., 1955.

13 D.R. Dudley, Urbs Roma, 128. Evidently a number of temples had this function.

XIV, 256-62), noting that thieves had broken into the temple, mentioned that the god's helmet had been stolen. Juvenal went on to remark that since Mars the Avenger had failed to protect his own property cash was now kept in the guarded temple of Castor. Dudley[14] suggested that the incident may have occurred during the refurbishing of the temple in Hadrian's time, or at least not long before Juvenal wrote the Satires. The stolen helmet must have been a removable item, perhaps in precious metals. It could not have belonged to the Mars in the Museo Capitolino, whose marble head is carved together with a marble helmet, perhaps to prevent a similar indignity! Mars on the coins of Hadrian seems to represent this statue (compare Pls. 75 and 76). On both, the head turns slightly to the left, the right hand grasping a spear while the left hand rests on a shield that stands on the ground. The drapery and armour seem to match exactly. A reasonable guess is that the new statue was created after the disgrace of the old one, and that it replaced the nude Mars appearing on the coins of Augustus. The latter figure, we may presume, corresponds to the torso wearing the zodiac baldric in the Vatican Museum.

In the forum adjoining the Temple of Mars Augustus had constructed another zodiac, though this time apparently it took the form of names and numbers rather than images. This was the great sundial of the Campus Martius described by Pliny (NH, XXXVI, 72). It was calculated, he said, by the mathematician Novius Facundus, and set into the pavement with brass rods. An obelisk transported from Egypt was used as a gnomon, and a gilt ball added to the pinacle to give the shadow better definition. This gnomon was moved to a new site at a later period, but has been recognized for many years as part of the Augustan sundial. In recent years a portion of the actual pavement of the Campus Martius, still holding

14 Ibid.

the brass rods of the measuring grid, has been rediscovered.[15] Within the Temple of Mars and outside of it, the zodiac had a part in the grand scheme conceived by Augustus in honour of the god who was credited with helping him create an empire.

Before concluding, one more item may be mentioned. A double-sided gem found in a necropolis in Southern Russia and presently in the Hermitage Museum (Ж.1908.61) portrays an anguiped on one side, and on the other two figures, one male, one female, encircled by the zodiac. The top section of the gem has broken away, but the long gown worn by the female figure and part of a nude male body can be recognized. Névérov[16] has reasonably identified them as Mars and Venus, though in fact no certain attributes remain. On a magical gem Mars and Venus were perhaps a love or virility charm.[17] Astrologically, the planets Mars and Venus were both associated with the passionate rather than the reasoned response, either in love or war. According to Ptolemy's[18] instructions for reading a horoscope, an astrologer should look to the positions of Mars and Venus for indications concerning love, marriage and sexual appetites, fields that they were thought to govern. A person seeking magical help with the affairs of love might well invoke them.

The top of the gem is broken away, but the signs from Leo to Sagittarius on the lower half of the gem are intact, and the two solstices, Cancer and Capricorn, on either side of the figures, are damaged but

15 E. Buchner, "Horologium Solarium Augusti. Vorbericht über die Ausgrabungen". Rom. Mitt. LXXXVII, 1980, 355-373.

16 O. Névérov, "Gemmes, bagues, et amulettes magiques du sud l'URSS", in Hommages à Vermaseren II, 835-6, and pl. CLXVIII, 5a, 5b.

17 C. Bonner, Studies in magical amulets, 42, believes the connection between Ares and Aphrodite on the gems to be largely literary, due to Odyssey 8.

Such gems are taken as love charms by A. Delatte and Ph. Derchain, Les intailles magiques Greco-Egyptiens, 239, and by A. Blanchet, "Venus et Mars sur les intailles magiques", CRAI 1923, 220 ff. Mars and Venus occur frequently on the gems, but not usually with the zodiac.

18 Ptolemy, Tetrabiblos, III, 14, 171-3; IV, 5, 187-9.

recognizable. From what remains, the zodiac seems to be a standard representation with the spring signs, Aries and Taurus, at the top. The zodiac, circling the heavens in never-ending cycles, was a symbol of eternity. Venus and Mars, love and virility, encircled by the zodiac probably represent "eternal love".

Mars never seems to have lost his appeal, at least to the men of war, as long as pagan religion lasted. The Capricorn gemstones, known in almost every collection of engraved gems from antiquity and still turning up in excavations, are an indication of his popularity. If one assumed that every Capricorn on a gem represented the month of the owner's birth, it would be necessary to explain why so many were born in that month, or alternatively, why so few people born in other months desired to have their month sign on a gemstone. The most plausible explanation is that on the great majority of the extant gems, Capricorn did not represent the owner's horoscope, but the Exaltation of Mars. Such gems may have been worn by serving officers to invoke the aid of the war god for victory and protection in battle.

Chapter eight. MITHRAS

ICONOGRAPHY AND ANTECEDENTS

The worship of a god Mithras is attested in the east from before the end of the second millennium B.C.[1] and thereafter in Iran, Mesopotamia, Anatolia and Vedic India, even persisting in some areas until the present day. It is necessary to stress that the monuments to be examined now relate to Mithraism in its Roman form, as the precise relationship between the eastern and western aspects of the cult is not yet clearly defined.

Mithraic iconography suggests a cult with powerful astral overtones. Stars are often scattered over Mithra's clothing and the sun, moon, and several constellations, including the zodiac, had a place in a significant number of cult images. It is to these astral elements that our discussion will be devoted. First, however, let us refer briefly to a characteristic Mithraic icon.

The best known of Mithraic images and apparently the cult's central icon is the Tauroctony, representing Mithras as Bull-slayer. The young god is shown leaping onto the bull, his left knee pressed into its back, his right leg thrust back along the bull's hind leg. With his left hand he raises the bull's head, and with his right plunges the dagger into its shoulder. The image shows the moment of death. The bull is already defeated, his head immobilized, his front legs collapsing under him. Peripheral to the main action a number of iconographic elements are almost invariably present. A dog leaps towards the fatal wound on the bull's shoulder, a scorpion grasps at the bull's genitals, and a snake undulates along the ground. Sometimes there is also a lion and crater. Two small figures are usually stationed on either side of the central group, one grasping a raised

1 A Mithras is mentioned in a cuneiform tablet of the fourteenth century B.C., see R.D.Barnett, "A Mithraic figure from Beirut", in Mith.Stud. Manchester, 1975, 467.

torch, the other with torch lowered. Representations of Sol and Luna and personifications of the seasons are often part of the composition and sometimes the bull's tail terminates in an ear of corn. On a number of reliefs the whole central motif is enclosed by the zodiac, or has the zodiac arching overhead (see Pls 78-83).

It has been noted on many occasions that the images in the bull-slaying scene correspond to constellations[2], and the following equations are now generally accepted:

bull = Taurus	scorpion = Scorpio	crater = Crater
dog = Canis Major	lion = Leo	corn = Virgo (Spica)
snake = Hydra	raven = Corvus	

The twin figures carrying torches are sometimes equated with the Gemini, and in addition to the celestial company of the sun, moon, seasons and zodiac, Tauroctonies such as the relief from the Sidon Mithraeum (Pl.82) and the Barbarini fresco (Pl. 81) portray Mithras in a star-spangled cloak. The repetition of such images is evidence that the bull-slaying was envisaged as an act of cosmic significance, commemorated among the stars.

The constellations in the list above share a common factor: all are clustered along, or near, the celestial equator, between the spring and autumn equinoxes (Fig. 38). The celestial equator marks the division between the celestial north and south, that is, it is the dividing line between the so-called "upper" and "lower" hemispheres, concepts that will occupy our attention on several occasions in the following pages. The ecliptic, the sun's path, crosses the celestial equator at two points. In geocentric terms, that is, from the point of view taken in the ancient world, the sun, travelling towards the north, crosses the celestial equator at the spring equinox in Aries; then after reaching its most northerly point in Cancer, it resumes a course towards the south, recrossing the celestial equator at the autumn equinox in Libra. Textual and iconographic

2 Insler explores the matter in some detail, see "A new interpretation of the bull-slaying motif", in Hommages à Vermaseren, II, 519-538.

sources to be examined presently suggest that these two points had an important place in Mithraic theology.

In the Tauroctony the constellations of the celestial equator are bounded on either side by the twin figures of Cautes and Cautopates, standing cross-legged and holding torches, one with the torch pointing up, the other with a lowered torch. Studies of these two figures by various scholars have indicated the complexity of the symbolism they embody, but one of their symbolic functions can be easily discerned once the bull-slaying images are recognized as constellations of the celestial equator. Cautes and Cautopates identify the location of the Tauroctony in the sky by marking the position of the equinoxes.[3] Their crossed legs indicate that at these points the sun's path crosses the celestial equator, and their torches show whether the sun is travelling to the north (raised torch) or to the south (lowered torch). The relevance of the equinoxes in a Mithraic context will become increasingly apparent as the chapter progresses.

The bull-slayer image was to be viewed in a specific setting: the Mithraic sanctuary. In general, the Mithraeum was dark and sometimes subterranean, occasionally located in a natural cave. Alternatively, cave-like effects might be simulated, at least in the area around the Tauroctony, which seems to have had its place in the darkest end of the sanctuary, farthest from the door. Basically, the sanctuary's interior consisted of a central nave with raised benches on either side, though the complexity of arrangements varied.

Porphyry, in an essay dealing with the meaning of a passage from Homer which described a nymphs' cave, throws some light on the symbolic intention behind this kind of sanctuary. Caves, he said, were taken to represent the cosmos because they were formless, moist, humid and dark, while the earth represented the matter from which the universe was created. Plato, he noted,

3 R.Turcan also suggested this in Mithras Platonicus, 1975, 85.

had used such an image in the Republic. Porphyry's description of the first Mithraeum is worth quoting at length: [4]

> "Eubulus tells us that Zoroaster was the first to dedicate a natural cave in honour of Mithras, the creator and father of all; it was located in the mountains near Persia and had flowers and springs. This cave bore for him the image of the cosmos which Mithras had created and the things which the cave contained, by their proportionate arrangement, provided him with the symbols of the elements and climates of the cosmos. After Zoroaster others adopted the custom of performing their rites of initiation in caves and grottoes which were either natural or artificial. Just as they consecrated to the Olympian gods temples, shrines and altars, to terrestrial deities and heroes sacrificial hearths, and to the gods of the underworld ritual pits or trenches, so they dedicated caves and grottoes to the cosmos."

Porphyry's description corroborates what the bull-slayer image suggests: that Mithras is a "cosmic" deity, concerned with the material universe. It also adds some facts that will be of concern to the development of this thesis, which is that Mithras is the "creator and father of all"; that "Zoroaster" arranged the interior of the cave to represent the "elements and climates of the cosmos"; and that after Zoroaster others adopted a similar custom. We will return later to the implications of Mithras as demiurge, and consider first the relationship of "Zoroaster's" cave to Roman Mithraic sanctuaries.

Assuming that the term "climates" is meant roughly in the sense of "latitudes", as it was used by ancient geographers and astrologers, one must decide whether in some sense Roman Mithraic sanctuaries were envisaged as cosmic diagrams. In the case of a Mithraeum found in Ostia known as Sette Sfere, R.L.Gordon[5] has shown that this was probably the case. In Sette Sfere the benches on either side of the nave were marked with zodiacal signs in the following order:

4 Porphyry, De Antro Nympharum, 8. The English translation is from the edition and translation published by Arethuse, 1969, (State University of New York Buffalo), and will be used for all further quotations from the same work.

5 R.L.Gordon, "The sacred geography of a Mithraeum: the example of Sette Sfere". JMS 1/2, 1976, 119-165

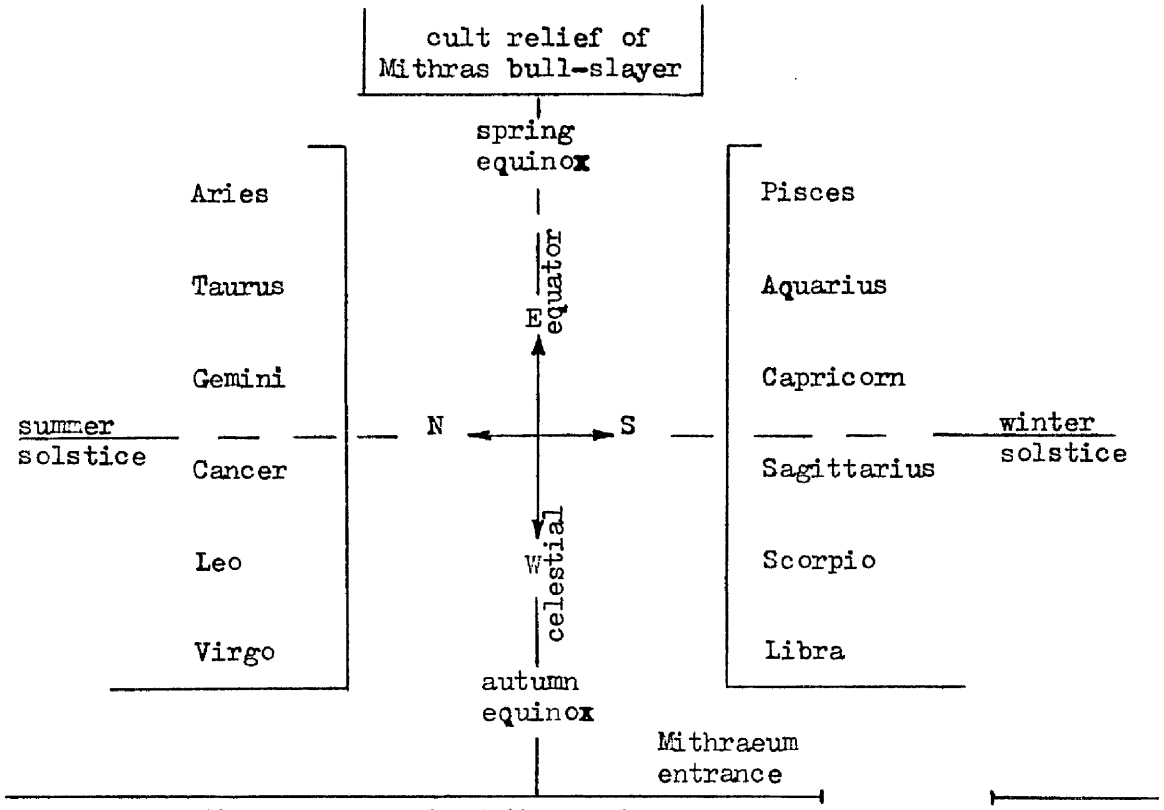


Diagram 1. The arrangement of the zodiac on the benches at Sette Sfere and its directional implications.

Astronomers place the summer solstice in the first degree of Cancer, the most northerly of the signs, and the winter solstice in the first degree of the most southerly, Capricorn. Our horizontal line connecting the solstices marks the Mithraeum's conceptual north-south axis. Gordon pointed out that physically, Mithraic sanctuaries do not conform to a specific orientation, but that any interior could be organized to suggest conceptual orientations. Porphyry provides information about the cosmic location of Mithras, mentioning that the "throne" of Mithras is on the equinoxes,[6] and a little later, that "Mithras is placed in the region of the celestial equator, with the north to his right and the south to his left".[7] The zodiac at Sette Sfere indicates how these cosmic directions can be transferred to a Mithraeum. Astrologers refer to the signs from Aries to Virgo as the "northern signs", and those from Libra to Pisces as the "southern signs".

6 Porphyry, De Ant. Nymph. 24.

7 Ibid., 25.

With the signs arranged according to our diagram, Mithras on the cult statue facing down the Mithraeum between the rows of benches, does indeed have the north to his right and the south to his left.

The two sets of six signs are divided at the equinoxes, that is, Aries and Pisces on the benches nearest the cult statue are separated by the spring equinox, and Virgo and Libra at the other end are separated by the autumn equinox. This means that the line of the equinoxes, i.e., the celestial equator, runs down the centre of the nave. Thus the position of the Tauroctony automatically established the conceptual cardinal points in a Mithraeum, even if the position of the zodiacal signs were unmarked. At this level the scheme is sufficiently basic to assume that for ritual purposes it may have operated in any Mithraeum.[8] It is unnecessary, I think, to push the symbolism further.

Porphyry's statement that it was "Zoroaster" who first established a form of Mithraeum (above, p. 207) indicates that certain cult ideas were acknowledged to have had an eastern origin. A few characteristic Mithraic icons can be traced to eastern sources, not to Iran, however, but to Mesopotamian art. These images have derived from the same source of astral iconography as the zodiac. Because some of the images have been mentioned in a previous chapter, a short digression to locate the earlier icons is justified.

The scorpion that reaches for the genitals of the dying bull in the Tauroctony undoubtedly had a Mesopotamian origin. The image occurs on almost every Tauroctony, yet is not a common image in Graeco-Roman art, occurring nowhere outside a Mithraic context. It is known, however, on a Babylonian boundary stone of the twelfth century B.C. (BM 90829), from the reign of Melisihu (1188-1174 B.C.). The animal whose genitals

8 For the arrangement of the planets in relation to the benches, see R.Beck, "Sette Sfere, Sette Porte", in Mysteria Mithrae, 515-529.

the scorpion is about to attack is not the astral bull, but another constellation, Sagittarius, the zodiacal centaur-archer (Pl. 42). The image is so rare outside of the Tauroctony that it would be difficult to deny the relationship between the two.

Another image worth considering is that of a pair of torch-bearers on an inscribed clay tablet from the reign of Nabu-aplu-iddina (ninth century B.C.) now in the British Museum.(91000) which has a relief displaying the sun god Šamaš enthroned in a shrine representing his solar chariot. The sun disk is placed on an altar before him, and cords are suspended from it, presumably representing the chariot reins. The torsos of two small figures project from the roof of the shrine. They are male, bearded and wear horned tiaras signifying divinity, yet their inferior size shows them to be of lower status than Šamaš. Each holds a lighted torch in one hand, and with the other grasps the reins of the sun-disk. Evidently they are divine attendants, perhaps chariot drivers, from the retinue of the sun-god (Pl.19).

Given that we have already found a Mesopotamian prototype for one Mithraic image in the scorpion attacking the genitals of the centaur-archer, it is possible that these twin gods with torches may be prototypes of Cautes and Cautopates. There are certainly differences. Cautes and Cautopates are young, beardless and carry their torches in a special way. Nevertheless, it can hardly be doubted that their symbolism is at least partly concerned with the annual journey of the sun, and in this regard at least, matches the function of the torch-bearers on the clay tablet.

Twin gods, said to be sons and squires of Šamaš, are mentioned in cuneiform texts. Their names were Kettu and Mēšaru, which T.G.Pinches[9] translated as Truth and Righteousness, appropriate names for the sons of an all-

9 T.G.Pinches, "Righteousness", in the Encyclopaedia of Religion and Ethics, X, 777-8.

seeing god of justice. As we have seen,(above, p. 64),they were also equated with stars, though precisely which stars is unknown. As the divinities on the clay relief may provide an origin for the iconography of Cautes and Cautopates, a philological investigation of the names Kettu and Mēšaru in relation to the names of the Mithraic twins might be fruitful. This is yet another example of a Mithraic image related to a Babylonian antecedent.

The iconographic association between the lion and the snake apparent on so many Mithraic monuments existed already in Mesopotamia and was bequeathed to the Graeco-Roman world on star-maps. The lion is seen striding along the back of a serpent-dragon on an unfinished boundary stone in the British Museum (90850) (Fig. 24), probably to be dated to the early first millennium B.C. and certainly before the seventh century B.C. when boundary stones apparently went out of fashion. The same motif recurs on a clay tablet of the Seleucid period (Pl. 53), but this time the cuneiform labels identify the two figures, the lion as the zodiacal Leo, and the serpent as the constellation Hydra. This iconographic union is apparent on Greek star-maps, where the coils of Hydra stretch below the feet of the Lion. The situation in Egyptian astral iconography is even more revealing. The circular star-map from Dendera which imposes the Babylonian zodiac among Egyptian constellations, did not adopt Hydra, an enormous constellation stretching from Virgo to Cancer along the celestial equator. Apparently, however, the mythical and iconographic bond between Leo and Hydra was too strong to deny entirely. Leo was given a snake of his own to stand on, insignificant in comparison to Hydra, certainly, but maintaining the old nexus. For centuries after, as we shall see, some Egyptian zodiacs depicted Leo with a snake beneath his feet, even in contexts where one would imagine Hydra to have been quite irrelevant. The nexus between lion and snake in Mithraic iconography has been the subject of too much discussion to warrent further comment here, though we shall return to the subject below, in relation to the lion-

headed figure. It is apparent, however, that this iconographic union is from a Mesopotamian source.

The bull-slaying motif itself has been noticed on two Mitannian seals. R.D.Barnett[10] drew attention to a royal seal of King Sauššatar of Mitanni, whose reign dates to c. 1450 B.C. Among other motifs the seal shows a bull-slayer with his left knee pressed to the bull's back, like Mithras. He also resembles Mithras in being young and beardless, which is somewhat unusual among Mesopotamian gods. A similar figure may be seen on a seal published by Seyrig.[11]

Approximately a century later, King Sauššatar's grandson, the Mitannian King Kurtiwaza, concluded a treaty with the Hittite King Šubbiluliuma, which called on the gods as witnesses. Among his gods Kurtiwaza invoked Mitra. There is no direct proof that the bull-slayer on Sauššatar's seal is Mitra, but if not the co-incidence is remarkable. It is certain, at least, that a young bull-slayer whose iconography resembles that of Mithras was known in Mesopotamia in the fifteenth century B.C. and was shown on the seals of a royal dynasty who worshipped Mitra. Considered with the other iconographic items from ancient Mesopotamia that are paralleled in Mithraic art, the evidence is compelling.

The material presented in Ch. 1 has shown that Babylonia developed the prototype icons for many constellations, including Taurus, Scorpio, Leo, Hydra, Corvus, and Canis, that is, for the constellation images depicted in the Tauroctony. In total, the images to which we have drawn attention make up an important part of Mithraic iconography. A summary in list form will make this more apparent:

10 R.D.Barnett, "A Mithraic figure from Beirut", in Mithraic Studies, Manchester, 1975, 467.

11 H.Seyrig, "Cylindre représentant une Tauromachie", Syria, XXXIII, 1956, fig. 5.

1 A young bull-slayer in the attitude of Mithras with his left knee pressed into the bull's back is known on Mittanian seals of the fifteenth century B.C.

2 The scorpion reaching for the bull's genitals on the Tauroctony is found reaching for the genitals of a centaur-archer on a boundary stone of the twelfth century B.C.

3 The twin torch-bearers, attendants of the sun-god, are shown on a clay tablet of the ninth century B.C.

4 The constellations depicted in the Tauroctony, Taurus, Canis, Corvus, Scorpio, Hydra and Leo, are known in cuneiform star-lists dating to the early first millennium or before, and also from images on Mesopotamian monuments.

5 The lion and the snake form an iconographic pair on a boundary stone of the early first millennium B.C., and are found together on later monuments.

The degree of Babylonian influence on Mithraic iconography must be regarded as a significant factor in any attempt to trace a history of the cult and may go far in explaining some of the apparently fundamental differences between Iranian sources and what is known of the cult in the Roman empire.

CLASSIFICATION OF THE ZODIAC MONUMENTS

The cult of Mithras was notably popular with the Roman legions,[12] whose movements throughout the empire probably account for its rapid spread in the second and third centuries A.D. Mithraic monuments have been found as far east as the Euphrates and as far west as Britain, although the greatest concentration of sites lie in Italy and in the areas around the Rhine and

12 C.Daniels, "The role of the Roman army in the spread and practice of Mithraism", in Mithraic Studies, Manchester, 1975, 249-274.

Danube. The large number of extant monuments obliges us to confine our attention to those works having the zodiac, though other astral images make up a large proportion of Mithraic iconography.

The zodiac seems to have been used in a limited number of contexts, some concerned with the cult icons, others with the architecture of the Mithraic sanctuaries. Specifically, Mithraic zodiacs may be categorized as follows:

THE TAUROCTONY The zodiac surrounds or arches over the central motif. There are twelve examples that are either complete or conserve enough detail to be sure of the theme, and three other zodiac fragments probably from Tauroctonies.

BIRTH MONUMENTS The zodiac surrounds the central image. There are two examples.

THE SNAKE-ENTWINED GOD The zodiac is placed directly on the body or clothing, or surrounding the figure. There are three examples.

ON THE ARCHITECTURE, zodiacs may be placed:
Around, beside or in the cult niche: Four painted examples;
On the benches: One example, at Sette Sfere;
On the ceiling: One example, at Ponza.

ZODIACS OTHER THAN THE ABOVE
Fragments of a basin with two signs, probably part of a zodiac.
Marble slab with a zodiac, found with a sacrificial knife.
Seven bronze plaques with one sign each.
Five bronze figurines of zodiacal signs.

A total of thirty Mithraic zodiacs are known. These were found at widely distributed sites in Italy, Syria, Pannonia, Dalmatia, Germannia, Gallia, and Britain and therefore testify to a widespread distribution of the ideas they represent, not simply to localized biases. A sampling of such a proportion and distribution indicates that the zodiac had a substantial part in the mysteries, especially as the majority of the examples relate

to the cult's central icon, or to the area in which it was placed.

C. THE TAUROCTONIES: ARCHED ZODIACS

The Tauroctony zodiac may take one of two forms: it may arch over the central motif, or else surround the scene entirely. When an arch is used it spans the action like a starry ceiling, evoking the cave in which Mithras performed the immolation, at once a symbol of the cosmos and the archtype for the Mithraeum. These zodiacs begin on the left with Aries, and end at the right with Pisces, placing the northern signs of spring and summer to the god's right, and the southern signs of autumn and winter to his left in the manner specified by Porphyry (Pls 78, 79, 80). An exception is the zodiac arch in the Tauroctony fresco of the Palazzo Barbarini Mithraeum, where the summer signs are placed to Mithra's left. We shall return to this zodiac later. If Mithras is to be associated with the equinoxes, as Porphyry says (De Ant. Nymph. 24) the bull-slaying must belong to the spring equinox. The deed is evidently concerned with the generation of plants, as the bull's tail is often shown sprouting an ear of grain, so the beginning of spring and the generative season is an appropriate moment. The arched zodiacs convey the position of Mithras by beginning and ending the sequence of signs with the spring equinox, thus implying that Mithra's action encompasses the point where the two ends meet, as explained in the following diagram:

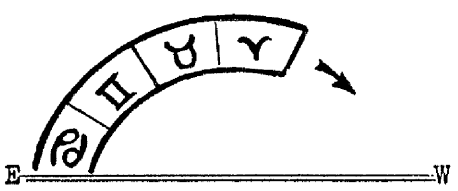
Diagram 2.
If the arched strip of signs are curled forward to form the zodiac ring, Mithras is standing at the point where they join, i.e., on the spring equinox.

A comparison between the Tauroctony diagram above, and the arrangement of the zodiac on the benches at Sette Sfere (p. 208), will show that Mithras occupies exactly the same position at the spring equinox on both.

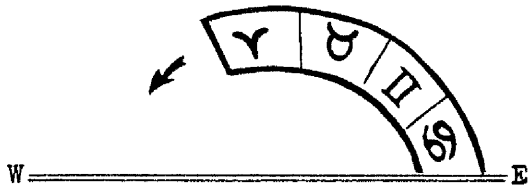
On the Tauroctonies, the zodiac remains peripheral to the main event, witnessing rather than acting. It represents the rotating universe, and is therefore a beneficiary of Mithra's act. The bull-slaying apparently occurred on the celestial equator, but the movement of the zodiac and the changing seasons was evidence that the creative act had occurred.

THE TAUROCTONIES: RING ZODIACS

The second form used for the Tauroctony had the zodiac completely encircling the scene. These were perhaps an attempt to show with greater fidelity that the rotating universe surrounds creation on every side, even below the earth. Of the extant examples, two are virtually intact, one from London and one from Sidon, while others, such as the examples from Sisak and Banjevaca, are recognizable but incomplete. It is interesting that three of the circular zodiacs are ordered in an anticlockwise direction, contrary to the direction adopted for the zodiac arches. Somewhat surprisingly, no rigid cannon was uniformly adopted in antiquity regarding whether the signs should be ordered in a clockwise or an anticlockwise direction. In fact the difference between the two is merely a matter of the position of the observer. If one faces south, the east is to the left, west to the right, and the signs progressing from east to west appear to have a clockwise movement. If one faces north the reverse is true, and the signs appear to move in an anticlockwise direction, though still travelling from east to west. The signs progress in the opposite direction to their ordering, so a zodiac with the signs shown in a counterclockwise order will move in a clockwise direction, and vice versa (See diagram



Observer facing south
clockwise rotation
anticlockwise order of signs



Observer facing north
anticlockwise rotation
clockwise order of signs

Thus either choice was open. The artist and his patron solved the problem in their own way, or simply depended on an available source, such as a manuscript, an earlier monument, or a celestial globe, resulting in an apparently random distribution of clockwise and counterclockwise cycles. It is interesting that Plato, many centuries earlier, had in fact made a statement that could have resulted in a fixed cannon. He said (Timaeus 36 C) that the motion of the Same (i.e., the fixed stars) is towards the right along the side, while the motion of the Other (that is, the sun, moon, and planets) is towards the left along the diagonal. The arched Tauroctony zodiacs do follow this code for the motion of the Same. With most ancient zodiacs, however, it is difficult to determine whether a particular clockwise or anticlockwise cycle is due to the chance of available source materials, or whether it is the result of a deliberate choice.

THE SIDON TAUROCTONY

The most interesting of the Tauroctonies with the zodiac arranged in a ring is the relief from Sidon (Pl. 82), now in the Louvre, which has been dated on the evidence of works found with it to 188 A.D. The counterclockwise arrangement seems to have been the result of a pre-determined choice, as the elements are too well planned to suggest anything else. The artist's problem was to place Mithra correctly on the equinoxes, with the north to his right, within the framework of a counterclockwise zodiac probably with the proviso that the spring signs, Aries and Taurus, should be given a dominant "new year" position. He has very competantly solved

these problems by placing Aries and Taurus at the top centre and using the strong diagonal of Mithra's body to mark the line of the celestial equator between the equinoxes in Aries and Libra. A secondary, but still powerful compositional line running along the edge of Mithra's cape and down the right arm, marks the line of the solstices in Cancer and Capricorn. At the same time he has shown that the scorpion attacking the bull's genitals is indeed the zodiacal scorpion, and maintained the anticlockwise order for the signs.

The brilliance of the compositional solution on the Sidon relief becomes apparent by comparing it with two other Tauroctonies with ring zodiacs, those from London and Sisak (Pl. 83). The artists, wanting to keep the equinoxes (first degrees of Aries and Libra) on a horizontal line across the centre of the relief, and apparently, to maintain a counterclockwise order, have been forced to place the autumn equinox on Mithra's right, or worse, to rotate the zodiac 180° and place the Ram correctly on Mithra's right, leaving the summer signs on the lower half of the relief, that is, below the horizon! The lesser of two evils has been chosen and Mithras has Libra to his right.

On the Sidon Tauroctony the zodiac, instead of being confined to a separate band, has been integrated into the overall scheme. This has had the double benefit of allowing a greater manipulation of the composition so that Mithra's cosmic location is correct, and of stressing visually that the action occurs among the stars. This idea is further reinforced by the stars scattered on Mithra's cloak, and by the busts of the sun, moon and seasons interspersed among the zodiacal signs.

BIRTH MONUMENTS

Two zodiac monuments portray what has been said to represent the birth of Mithras. One, however, I believe should be interpreted in quite a different

way, and I propose to show that it does not represent a scene from the mythology of Mithras, but rather, that it portrays an antique doctrine, presumably Mithraic, but perhaps common to all astral cults, concerned with human genesis. It shows a soul about to leave the starry realm of souls in the Milky Way to begin the descent to genesis on earth.

Before beginning to describe the monument it is necessary to point out that it differs considerably from other representations taken to be the birth of Mithras, which are known from several Mithraic sanctuaries. In these the deity who emerges from a rock or the earth is already grown to youthful maturity, and often carries a dagger or some other attribute. In the monument we are about to consider the central figure is that of a young child, who has no attributes apart from one which we will discuss in detail below.

THE TRIER BIRTH RELIEF

The monument is a relief found at Trier, now in the Trier Rheinisches Landesmuseum. It portrays the head and torso of a chubby child emerging from a circular orifice whose rim carries the six zodiacal signs of spring and summer: Aries, Taurus, Gemini, Cancer, Leo and Virgo (Pl. 89). The child holds a globe in his left hand to which we shall return presently, and has placed his right hand near the summer solstice in Cancer. This gesture has a special significance for a scene of genesis because Porphyry (De Antr. Nymph. 22) informs us that the signs Cancer and Capricorn, the most northerly and southerly points of the zodiac, are the gates through which souls enter and depart from life.

> " The theologians spoke of these, Capricorn and Cancer, as two gates; and Plato called them orifices. Of these Numenius and Cronius say that the gate through which souls descend is Cancer, but that they ascend through Capricorn."

The child climbing through the opening indicates with his right hand

the place in the zodiac through which souls come to birth. In his left hand he grasps a globe, the perfect, divine, spiritual form, according to Plato (Timaeus 33B, 34B) and the form of the soul before it is weighed down by matter. Macrobius (Commentary on the dream of Scipio, I, xii, 4) says that while the soul remains in Cancer it is still in the company of the gods, but when it moves on into Leo it reaches the first stages of its future condition, and from here the soul's spherical shape begins to lengthen into a cone. The spirit shown in the very act of emerging through the opening in Cancer would still have its spherical shape, hence the circular orifice in the relief, yet to portray the soul as a sphere would be visually unsatisfying, as well as difficult to interpret. Instead, the artist has chosen to represent the soul in the human form that it will have after birth, but to refer symbolically to the spirit form by placing a sphere in the child's hand. It is significant and suggestive of its humanity that the child has no other attribute apart from the sphere. Mithras, even in birth scenes, may already hold a dagger or other paraphenalia.

From below the orifice in the relief the constellations Hydra, Corvus, and Canis Major watch the soul's first movement towards genesis, and from the pediment above it is observed by Leo. According to Macrobius, the soul must move from Cancer into the constellation Leo, where it will enter the first stages of its future condition. From Leo it drops down towards Corvus and Hydra, where it will drink from the Crater. It has already begun to lengthen into a cone and is experiencing the first accumulation of matter. At this point in his explanation Macrobius introduces some information that is of singular interest in the interpretation of Mithraic iconography: [13]

> "When the soul is being drawn towards a body in this first protraction of itself it begins to experience a tumultuous influx of matter rushing upon it. This is what Plato alludes to when he speaks in the Phaedo of a soul suddenly staggering as if drunk as it is being drawn into the body; he wishes to imply the recent draught of on-rushing matter by which the soul, defiled and weighed down, is pressed earthwards. Another clue to this secret is the location of the constellation of the Bowl of Bacchus

13 Translation by W.H.Stahl, 1952; reference to Phaedo 79C; Bowl of Bacchus = constellation Crater.

> in the region between Cancer and Leo, indicating that there for the first time intoxication overtakes descending souls with the influx of matter; whence the companion of intoxication, forgetfulness, also begins to steal quietly on souls at that point..... All of them in their descent drink of forgetfulness, some more, some less ..... This is what the ancients meant by the River Lethe." (I, xii, 7-9.)

The crater that appears so often among Mithraic images may well refer to this draught of forgetfulness which the descending soul imbibes. It is a barrier, a drawn curtain that obscures the soul's divine origin. A different crater, however, was mentioned in a hermetic papyrus.[14] This one was sent down to earth filled with divine understanding, in which the soul of man was invited to plunge. The second crater appears to have been the counterpart, or reverse image of the Crater constellation, its function apparently to partly undo for the faithful what the other had done, that is, to fill the soul with wisdom and remind it of its divine origin. This kind of imagery would seem to be in accord with what is known of Mithraic ideas, and it may be that the two craters represent the two halves of a Mithraic doctrine. Porphyry (De Antr. Nymph. 30-31) does allude indirectly to two jars of opposite character, and we shall see presently that a doctrine concerned with Opposites may have had a place in Mithraic theology. The theory of the two craters would need to be tested against the iconographic evidence, but must be postponed for a different occasion.

Evidence for the first crater may be seen on the Trier birth relief. The orifice for emerging souls is set into a frame resembling a monumental doorway, surmounted by a triangular pediment, now damaged at the top. Occupying the full space at the centre of the pediment is a snake-wreathed vessel, described by Vermaseren.[15] as a cantharus, the drinking cup associated with the vine god Bacchus. The cup prominently displayed at the top of the relief must represent an important element of the theme, and although not the Crater, is surely the cup used for taking the draught from the crater.

14 A.J.Festugière, "Le baptême dans le Cratère", Harvard Theol. Rev. XXXI, 1938, 1-12.

15 CIMRM, mon. 985.

The zodiacal signs shown around the rim are those of the months of generation and growth, beginning with the spring equinox in Aries, which may have represented the beginning of the world in a Mithraic context, a question to which we shall return later. Cancer, the portal for the descent of souls, has the position of honour at the centre of the top, and the signs end with Virgo, stopping short before Libra, which we shall find later to be the seat of the lion-headed god.

One more iconographic motif on the monument needs to be considered. In the four corners are the heads of Wind gods, which according to Porphyry, had a special function in genesis:

> "With good reason they [16] assigned winds to souls proceeding to genesis and departing from it because they also drag spirit along with them, as some have supposed, and possess a like essence. But the north wind is the proper wind for souls proceeding to genesis." (De Antr. Nymph. 25).

Porphyry went on to explain that this was because the north wind was cold, and helped to condense and materialize the spirit substance. Conversely, the south wind was assigned to souls departing from the world because it was warm, helping the souls to become light and to rise towards heaven. Thus it was inadvisable for the north wind to blow on a dying man, as it revived and recondensed his thinning soul and impeded its proper exit. Like astrology, this curious doctrine contained just enough physics (cold air condenses, hot air rises) to sound plausible. The winds appear on the relief as the instruments of genesis, ready to assist the soul at the beginning of its journey towards birth. The busts or heads of winds often fill the corners of antique monuments, but are usually considered merely decorative. Porphyry's words prove that this is not necessarily so. The winds on the Trier birth relief have a definate iconographic function, and their presence is necessary to the theme of the monument. On other monuments the winds may have different functions.

16 Porphyry was describing the doctrines of Numenius and Cronius.

On either side of the pediment are busts, now partly destroyed, but probably representing the sun and moon, whole rôle in genesis we shall examine in another chapter. Except for some unidentified objects to the right of the cantharus, all the elements of the relief can be explained in terms of the descriptions given by Porphyry and Macrobius, so that this interpretation offers a more comprehensive explanation of the relief than previous suggestions have done. The monument is clearly important, because it seems to be a unique portrayal of such a subject, and because it may well represent another link between the doctrines transmitted by Porphyry and the Mithraic faith.

THE HOUSESTEADS BIRTH RELIEF

A monument found at Housesteads in Britain seems genuinely to represent a birth of Mithras. The deity is shown as a mature young male, holding in one hand a dagger, and in the other a torch. His torso emerges from a broken segment of egg, with another segment still above his head. The twelve signs of the zodiac placed on a horseshoe arch around the young god's torso create an egg-shaped void, suggesting the pieces of egg already broken away by the emerging body. Cancer was originally placed at the top of the arch as one would expect in a scene of genesis, but has been destroyed. Libra is also missing. Of the remaining signs, Sagittarius and Aquarius are somewhat unusual. Sagittarius is an archer with a fully human body, and Aquarius is a merman with a looped fish tail, perhaps designed to create a balance for the tail of Capricorn on the opposite end of the arch (Pl. 88). We shall return to the merman later (p. 250-1), in connection with a monument whose authenticity is less secure than the Housesteads relief.

The Housesteads relief differs fundamentally from the previous birth scene. The deity is already mature and equipped with the attributes of his divinity, while his transcendance over time is expressed by a complete

zodiac. At the moment of birth his pose is already hierarchical, self-confident, even commanding. The emerging soul on the Trier relief, on the contrary, is immature, unequipped, and hesitant. He is shown only with the zodiacal signs of growth and generation, for in a human body he will be subject to time, and those signs symbolizing the cycle of decline and decay in nature would portend for him the inevitability of final weakness and death.

THE SNAKE ENTWINED DEITY

A male deity wrapped in the coils of a gigantic snake sometimes had zodiacal signs marked directly on his body or clothing. Of the two known examples, one whose head, arms and lower legs are missing, is in the Musée Lapidaire, Arles. It is dressed in a garment of fine material on which nine zodiacal signs, three between each of the serpents coils, have been preserved (Pl. 87). The three missing winter signs, Capricorn, Aquarius and Pisces, were presumably on the lower legs.

The second figure is in the Vatican Museum. It is nude except for the encircling snake and has the four signs of solstice and equinox carved directly on the body (Pl. 86). This figure, too, has lost head, arms and lower legs, but has had the missing members, including wings, restored in modern times. [17] It was restored with a lion's head, a feasible restoration, as a winged, lion-headed deity is well-known in a Mithraic context.

The iconography of the spiralling snake and the signs of the zodiac suggest a deity concerned with time, though not primarily in the sense of changing seasons and budding new life. This figure is still, hierarchical

17 Vermaseren, CIMRM, mon. 545, notes that "before" and "after" pictures may be seen in F.de Clarac, Musée de sculpture antique et moderne continué sur les mss de l'auteur, par Alfr. Maury, Paris, 1827-53, pls 560, 1192, 1192 A.

and ageless. New life suggests movement, but he is immobile, pinned by the tight coils that surround his body. He is Time in a sense that is inevitable, unyielding, frightening, but not necessarily evil, though his physical innability to move unmistakably suggests a god of death. The lion's head re-inforces the idea, but the inference is clear even without it.

The use of only four signs on the snake-entwined figure in the Vatican Museum is interesting. Aries and Libra, the two equinoxes, confront each other on the breast, while Cancer and Capricorn, the solstices, occupy opposite thighs. One is reminded of Porphyry's comment on the tension of opposites:

> "There is a cardinal point above the earth and another below it, one to the east and one to the west. There are regions to the left and right, there is night and day. And so there is harmony of tension in opposition and it shoots from the bowstring through opposites". (De Antr. Nymph. 29)

This passage is confusingly opaque in itself, but just before launching into it, Porphyry had noted that "the eastern regions are proper to the gods, and the west to daemons", and immediately after the passage he returned to the subject of the gates for the ascent and descent of souls. Thus Porphyry had, in fact, noted an opposing principle for each of the four cardinal directions: east for gods, west for daemons, north for the descent of souls, south for the ascent of souls.

Porphyry's thesis has a striking astrological parallel in the Babylonian doctrine of planetary Exaltations. It is curious, and no doubt significant, that with the whole zodiac to choose from, the sun and five planetary deities were allotted their signs of Exaltation as opposing pairs. Only the moon, Exalted in Taurus, was left without an opponent. The Exaltations are attested on a cuneiform tablet from the reign of Nebuchadnezzer (above, p. 33), and are undoubtedly of Babylonian origin. They were incorporated into Greek astrology and must have been well-known throughout the antique world, as they are to be found in any book of ancient astrology. It is

worth pausing to consider the doctrine for the light it may shed on Mithraic thought.

Ancient astrologers were unanimous in considering planets in opposition, i.e. at points diametrically opposite on the zodiacal circle, as hostile to each other. Ptolemy (Tetrabib. I, 13, 35) described opposite positions as inharmonious, and Manilius (Astronom. II, 652) used stronger language, suggesting that there was usually hatred between them, though he stressed (II, 417) that opposition was greater between the summer and winter solstices than between the equinoxes. This was because the spring and autumn equinoxes have a common factor: the equality of day and night. Winter and summer, on the contrary, share no common ground but are opposite in every sense, being the difference between hot and cold, long days and short days, north and south. The Babylonians arranged the astrological Exaltations initially as three opposing pairs:

PAIR 1: Jupiter and Mars. Jupiter was Exalted on the summer solstice in Cancer, and Mars at the winter solstice in Capricorn. As the doctrine was originally Babylonian, the reasoning behind the arrangement must be analysed in Babylonian terms. The planet Jupiter was identified with Marduk, the god credited with the creation of heaven and earth out of the split body of Tiamat (above, p. 45). The planet Mars was identified with Nergal, a god of death and the underworld. Thus, exalting the planet of Marduk on the summer solstice, and the planet of Nergal on the winter solstice, opposed the creator to the destroyer. This arrangement seems to have a conceptual relationship to the doctrine of the gates for the descent and ascent of souls, mentioned by Porphyry. The creator is exalted in Cancer, and according to Porphyry, Cancer is the gate through which souls come to birth; the destroyer is exalted in Capricorn, and in Capricorn is the gate for souls leaving the earth.

PAIR 2: The sun and Saturn. The sun and Saturn had their Exaltations at opposite ends of the celestial equator, on the equinoxes. The sun was Exalted on the spring equinox in Aries, and Saturn was Exalted on the autumn equinox in Libra. It is clear that these two were seen as a related pair because the Babylonians referred to Saturn as the "night sun", and it was even said that the stars reflected Saturn's light (above, p. 32). The opposition between the sun and Saturn was less intense because at the equinoxes night and day are equal. This temporal equality seems to have become associated with the idea of justice and order, so that the sun and Saturn, balanced at either end of the celestial equator, were both regarded as judges, and upholders of social order. Thus Saturn, the "night sun", was Exalted in Libra, the sign at which the day sun passed the celestial equator and began the southern half of its annual journey, when the days were colder and the sun was apparently less powerful.

PAIR 3: Mercury and Venus. Mercury, identified in Babylonia with Nabu, the scribe, craftsman and intellectual, was Exalted in Virgo. On the opposite side of the zodiac Venus, identified with Ištar, a goddess of love and war, was Exalted in Pisces. In this pair the tension seems to be between the physical and intellectual life, between passion and reason.

The corollary of the system of Exaltations were the planetary Depressions which occurred in the sign opposite the Exaltation. Mention of the Depressions by ancient astrologers (e.g. Ptolemy, Tetrabib. I, 19) is another confirmation that the arrangement of the Exaltations in antithetic pairs was a conscious polarizing of hostile influences: when the creator is Exalted, the destroyer is Depressed, and vice versa. Later astrologers ameliorated the system by confining the Exaltations and Depressions to one specific degree of a sign, but in the mid-second century A.D. Ptolemy still wrote of the Exaltations and Depressions in terms of whole signs.

A "tension of opposites" is implied in the system of Exaltations, and if, as might be inferred from Porphyry's remarks, the "tension of opposites" had a place in Mithraic thought, the astrological Exaltations would need to be considered in any future attempt to reconstruct something of the cult. Mithraic iconography suggests that the opposing principle to Mithras, the creator bull-slayer on the spring equinox, must be the snake-entwined deity, and we shall see now that the latter did occupy a position opposite, on the autumn equinox. The planet Exalted on the autumn equinox was Saturn, and I propose to show that Roman Mithraists had identified the snake-entwined deity with Saturn. In the empire Saturn was usually Chronos-Saturn, Time, the reaper whose scythe would eventually cut down the harvest of living beings. Several scholars[18] have suggested that the snake-entwined figure may represent a deity identified with Chronos-Saturn, but until now a piece of confirmatory evidence in the Tauroctony fresco of the Barbarini Mithraeum has been overlooked, evidence which indicates that the snake-entwined figure and the planet Saturn are one. The fresco's central space is dominated by Mithras, with the zodiac arching overhead. Directly above Mithra's head a blue globe stands <u>in</u> the zodiac at the junction of Virgo and Libra, on the autumn equinox. The legs of the snake-entwined deity spring directly from the globe, and there can be no doubt that the figure portrays the planet Saturn on its Exaltation (Pl. 81). The blue globe identifies the deity as a planet, as astronomical texts describe Saturn as having a white or blue colour, and images of the figure on a globe are well-known.[19] The globe is tinted a greenish-blue to match the colour of Mithra's garment, indicating a special relationship, for we shall see presently that although Mithras and Saturn are "opposites", they are also one.

Mithras, the creator, is situated on the spring equinox. The zodiac over the Tauroctony begins and ends with Aries and Pisces, breaking at the spring equinox where Mithras stands. At the other end of the celestial equator,

18 Including Cumont, <u>TMM</u> I, 78.

19 Hinnells, "Reflections on the lion-headed figure", <u>Acta Iranica</u> IV, 344, lists seven lion-headed statues with a globe.

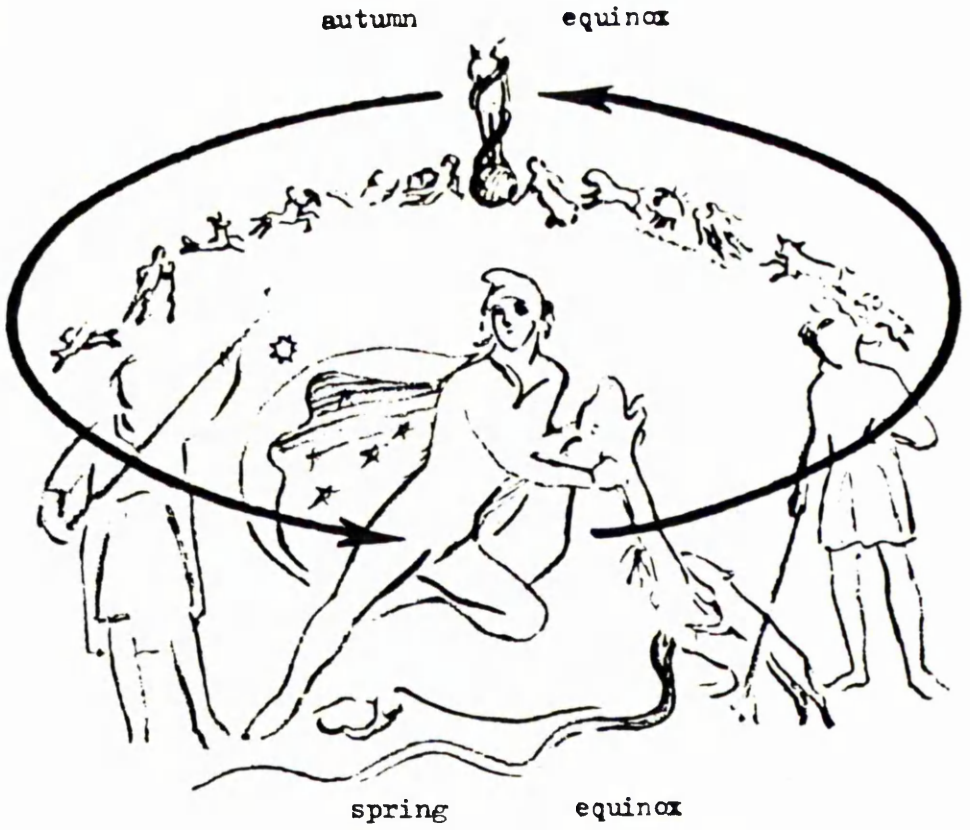


Diagram 3. Sketch of the fresco in the Palazzo Barbarini Mithraeum, demonstrating the relationship between Mithras and the snake-entwined deity.

on the autumn equinox, the Barbarini fresco shows the planet Saturn, facing Mithras in a "tension of opposites", for he is Chronos, Time, who will inevitably destroy in its season the terrestrial life that Mithras has created. The motif is repeated on the Tauroctony relief from Dura, where the bust of Saturn is placed in the zodiac on the autumn equinox (Pl. 80).

Each deity presides over half the zodiac, standing at the beginning of their respective cycles, making the zodiac a symbol, not just of the revolving seasons, but of the cycle of life, itself. When the zodiac is cut through the equinoxes the two halves reflect each other in reverse, like an image seen in a mirror. The northern signs, from Aries to Virgo, imply summer, growth and generation, with the days gradually lengthening until the longest day, and then slowly shortening again until a point of equality between day and night is attained at the equinox. The antithesis is winter, decay, death, a gradual shortening of the days until the shortest day, and then a

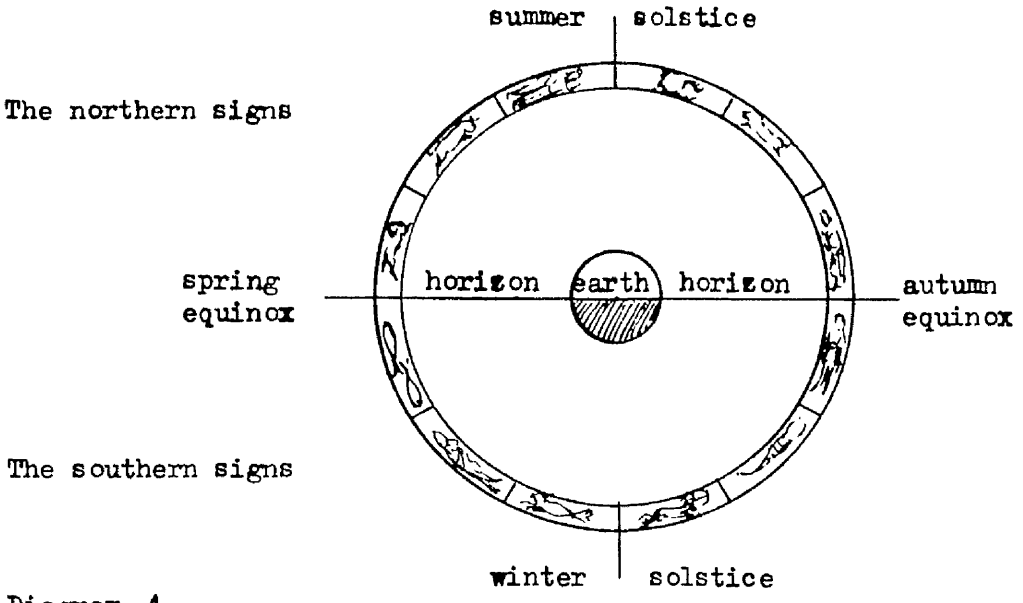


Diagram 4.

slow lengthening until equality is once more achieved. Theologically and astrologically, this inversion is expressed by Exalting the gods of life and generation, such as the sun and Jupiter, in the northern signs, and the gods of death and war, Saturn and Mars, in the southern signs. Evidence that the doctrine existed is plentiful. Apart from the system of Exaltations, it can be seen in the practice of referring to Libra as the "Horizon" in texts from Hellenistic Egypt.[20] If we imagine a stationary universe with the northern signs relating to life standing above the earth, and the southern signs below the earth, then the autumn equinox in Libra is indeed on the horizon. Plutarch (De Is. et Os. 368) remarked that the horizon unites what is above and what is below, and thus the snake-entwined deity standing at the autumn equinox is placed at the symbolic entrance to the lower world. Significantly, fifty-five percent of works portraying this figure show it carrying keys. Macrobius (Sat. I, 21, 2-3) described the concept thus:

> "Now six of the twelve signs of the zodiac are regarded as the upper signs, and six as the lower, and so the Assyrians or Phoenicians represent the goddess Venus as going into mourning when the sun, in the course of its yearly progress through the series of the twelve signs, proceeds to enter the sector of the lower hemisphere. For when the sun is among the lower signs and therefore makes the days shorter it is as if it had been carried off for a time by death and had been lost and had passed into the power of Proserpine, who as we have said, is the deity that presides over the lower circle of the earth".

20 Neugebauer, EAT, III, 205.

According to this view the dead go below the earth, not under the ground, but into the southern hemisphere. Variations of the doctrine occur in numerous contexts, and we shall refer to it again in later chapters. Here, it explains why the lion-headed deity stands with keys at the autumn equinox, symbolically the entrance to the Hereafter.

There are hints in Babylonian astral texts of a seat of judgement in Saturn's position on the autumn equinox. Saturn was called the "Star of Law and Order" (p. 32), and other cuneiform texts suggest that the balance of the constellation Libra was a symbol of justice. It is possible that the Mithraic lion-headed Saturn fulfilled the function of Judge on his Exaltation in Libra. Inscriptions found in the Dura Mithraeum and at Santa Prisca suggest that initiates of the lion grade may have been expected to act as moral guardians to cult members,[21] suggesting a link between the lion and judgement.

Mithras and Saturn, situated one on either equinox where the days and nights are equal, seem more like the left and right of a single individual than beings in complete opposition. R.D.Barnett [22] drew attention to a small bronze figure from Beirut, now in the British Museum (WWA 48357). It is winged, but more significantly, it is double-sided, having a lion's head facing in one direction, and a human head facing the other (Pl. 84). The figurine suggests that the lion-headed deity was one aspect of a greater whole, indeed, a face of Mithras himself. Porphyry's words support this interpretation when in speaking of the proper "throne" of Mithras, he used the term "equinoxes", in the plural (De Antr. Nymph. 24).

The Tauroctony images show Mithras as "creator", but inscriptions also address him as "saviour" [23] and as such, Mithras must have controlled the gate of the Hereafter. A few scholars have tentatively suggested that

21 Gordon, "Cumont and the doctrines of Mithraism", Mith. Stud. Manchester 1975, 241.

22 Barnett, "A Mithraic figure from Beirut", Mith. Stud. Manchester, 466.

23 The epithet salutaris is found in CIMRM I, nos 213, 333, and 384. See Turcan, "Salut Mithriaque", in La soteriologies dei culti orientali, 173-191.

Mithras and Saturn may have been identical. Vermaseren [24] wrote to this effect in 1951, pointing out that the birthday of both deities was said to be 25 December. There is, however, textual evidence, apparently unnoticed until now, that directly identifies Mithras and Saturn. Ptolemy (Tetrabib. II, 3, 64) discussing astrological geography, said that the people of Parthia, Media, Persia, Babylonia, Mesopotamia and Assyria are under the influence of the south-eastern astral triangle, formed by Taurus, Virgo and Capricorn. This triangle is governed by Venus and Saturn, and because of this "they revere the star of Venus under the name of Isis, and that of Saturn as Mithras-Helios".

Ptolemy's unexpected identification of Isis with the planet Venus can be explained in the context of Alexandrian syncretism. In the parts of Asia named, Venus had been identified with several local goddesses, and in Egypt some of these had been assimilated to Isis. According to Witt [25], the devotees of Isis had identified her with Aphrodite, Tyche, Nike, Hygieia, Artemis and Astarte among others. Ptolemy simply used the name with which he was most familiar.

The Tetrabiblos is believed to have been written c. 150 A.D., that is, during the period when the cult of Mithras was in the early stages of its great period of expansion. Writing at this time, Ptolemy made two positive identifications that are important for any modern attempt to reconstruct something of the cult: he identified Mithras with Saturn, and he identified the cult of Mithras with the countries Parthia, Media, Persia, Babylonia Mesopotamia and Assyria. In the light of modern arguments concerning the genesis of Roman Mithraism, the latter is certainly significant, but in the context of this study of zodiac iconography, the former is more important.

24 M.Vermaseren, "The miraculous birth of Mithras", Studia Archaeologica G.van Hoorn, 1951, 98, 105-6, 107.

25 R.E.Witt, Isis in the Graeco-Roman world, 68.

Identifying Mithras-Helios with Saturn substantiates hints of the relationship which occur in Mithraic iconography, and it reiterates the link between the sun and Saturn that extends back through Greek sources to Mesopotamia. Babylonian astral texts, as we have seen (above, p. 32) refer to Saturn as the "night sun". In some unexplained way the two were apparently opposite, yet complementary.

Ptolemy's statement concerning the geographical distribution of the cult may detain us briefly. Clearly, Roman Mithraism which honoured the planetary deities as patrons of the initiatory grades and equated Chronos-Saturn with Mithras himself did not spring directly from Iranian Mazdaeism, where the planets, especially Saturn, were regarded as evil, robbers of the good things that the beneficial zodiac would have provided for mankind.[26] One may assume that the worship of a deity might vary from area to area, or from one period to another. Mesopotamian icons discussed towards the beginning of this chapter suggest that at least some elements of Roman Mithraism sprang from the areas listed by Ptolemy. A Middle Eastern influence on at least some aspects of the iconography is certain, and warrants a more comprehensive investigation than is possible in this context.

The term "Mithras-Helios" used by Ptolemy was often found in inscriptions. Iconographically, Mithraic art distinguishes between Mithras and the sun, even as it differentiates between Mithras and the lion-headed deity. Two Mithraic icons, the fresco from the Barbarini Mithraeum (Pl. 81) and the Tauroctony relief from Dura (Pl. 80) stress the relative positions of Saturn on the autumn equinox and the bull-slaying on the spring equinox. The astrological Exaltation of the sun is also on the spring equinox, and if in some way Mithras is to be identified with Saturn on the autumn equinox,

26 R.C.Zaehner, Zurvan, a Zoroastrian dilemma, 1955, 123.

he is probably to be identified with the sun on the spring equinox. It is interesting in this regard that Porphyry uses the term "throne" when writing of Mithra's position on the equinoxes (De Antr. Nymph. 24), as the term Throne was sometimes used in astrological texts as a synonym for Exaltation. The astrological papyrus P.Mich. 149, col.31, for instance, speaks of Thrones and Prisons instead of Exaltations and Depressions.[27] If the sun on its Exaltation was identified with Mithras, the term Mithras-Helios would need no further explanation.

THE MODENA PHANES

The Modena Museum holds a relief of another snake-entwined deity, this one youthful, winged and human-headed. The heads of three animals, a buck, a lion and a ram, grow from his torso, while beneath his cloven hoofs and above his head are the two halves of a fiery egg. He holds in either hand a thunderbolt and a sceptre, symbols often reserved for Jupiter. The crescent moon appears behind his shoulders and he is framed in an oval zodiac and accompanied by the winds of the four cardinal points (Pl. 85). The relief was dedicated by Felix and his wife Euphrosyne, but not initially to Mithras. At a later stage the inscription was changed; the name of Mithras was inserted and Euphrosyne's name partly erased, as women were apparently not admitted into the Mithraic cult.

Recent scholars have agreed that the relief represents the Orphic deity Phanes. Festugière [28] noted that it could almost be an illustration for a description given by Proclus in the Commentary on the Timaeus (427; 429; and 430), and Leisegang [29] quoting different sources, suggested that the artist was trying to state the whole Orphic cosmogony on a single stone. Both scholars discussed the Phanes relief at some length in relation to the

27 F.E.Robbins, "A new astrological treatise", Classical Philology, XXII, 1927, (Jan.), 44.

28 A.J.Festugière, Proclus, Commentaire sur le Timée, II, 1967, 11.

29 F.Leisegang, "The mystery of the serpent", Papers from Eranos yearbooks 2, Bollingen Series XXX, 1955, 208-11.

Orphic texts, so here it will surfice to note that the rededicated relief was apparently also acceptable in a Mithraic context. Certain icons seem to have been used in both cults. For instance, the encircling serpent over the hierarchical pose of Phanes resembles the iconography of the Mithraic lion-headed deity and suggests a Time god, while the oval void surrounding Mithra on the birth relief from Housesteads (above, p. 223) seems, like the form of the Modena relief, to allude to a primal egg. Whether the mysteries of Mithras and Orpheus shared any common mythological ground is unknown, but we must assume that Mithraists recognized that the Phanes relief did not derive from specifically Mithraic iconography, as the deity's cloven hoofs and the animal heads growing from his torso are easily distinguishable elements. Nevertheless, the relief was apparently accepted, and it seems probable that in Mithraic thought, Phanes was regarded as merely another of the faces of Mithras-Chronos. In the next two chapters we shall find other deities who were apparently identified by Mithraists with Mithras. In particular, the youthfulness of the Modena figure, as well as the zodiac band that encloses it, suggests a relationship with the god in the zodiac ring known from mosaics and other representations. That deity, too, represented an aspect of Saturn, and therefore of Time, and the iconography, as we shall see, may help to explain how the Modena figure functioned in a Mithraic context.

A detail of the zodiac iconography on the Modena Phanes is different from Mithraic examples, as one of the Gemini was shown with the lyre, an attribute of Apollo. Roman zodiacs commonly portrayed the Twins as Apollo and Hercules, but this icon was not used on Mithraic examples. In other respects, the Modena Gemini correspond to the usual Mithraic iconography for the sign, that is, they take the older, simpler form of two nude young men whose arms encircle each other's shoulders and whose feet are often so placed that the right leg of one crosses the left leg of the other.

The Modena zodiac is arranged so that Aries, the beginning of spring, takes the position of prominence at the top centre of the relief, immediately over the deity's head. A number of ancient authors, including Virgil (Georgics, II, 337-347) mentioned a belief that the world began in spring. The relief seems to depict the instant before the beginning. The young god is motionless, the signs have not yet begun to move, nor the winds to blow. One might conclude that this is the genesis not just of life, but of the universe itself.

ZODIACS IN MITHRAIC ARCHITECTURE: THE PONZA CEILING.

Zodiacs painted or stuccoed directly onto the fabric of the Mithraeum occur at Dura, Santa Prisca, Palazzo Barbarini and Ponza. They were usually placed in or around the cult niche, and therefore relate either to the Tauroctony or to the snake entwined deity, sometimes, as in the Palazzo Barbarini fresco, to both.

The Ponza zodiac, stuccoed and painted onto the sanctuary ceiling, is exceptional in several ways. It is unique among the indisputably Mithraic zodiacs in displaying the polar constellations, Ursa Major and Ursa Minor, as the central motif within the zodiacal ring, though as we shall see later, this is known on other monuments. The zodiac's location on a ceiling is also unique among Mithraic examples, as is the distinction that it appears to make between fast and slow rising signs. Of recent years the Ponza zodiac has been discussed at some length by Vermaseren [30] and Beck, [31] so here a summary will be adequate.

The zodiac was designed as a ring, divided into twelve segments that are not uniform in size, the summer-autumn signs receiving rather more

30 M.Vermaseren, Mithriaca II, The Mithraeum at Ponza, 1974.

31 R.Beck, "Interpreting the Ponza zodiac", JMS, 1/1, 1976 and 2/2, 1978.

space than the winter-spring signs. Beck [32] has suggested that this may have been intended to distinguish between fast and slow rising signs, a a phenomonon frequently mentioned by ancient astronomers. The varying speeds with which the signs rise is due to the angle formed by the ecliptic with the horizon; because of their oblique angle the spring and winter signs appear to rise more quickly than the summer signs, which follow a steeper course.

At the centre of the zodiac ring are the polar constellations of the Great and Little Bears, as well as a massive serpent lying under the signs and forming a semi-circle around the Bears (Fig. 96). The serpent does not resemble Draco, whose body twists between the two bears, and it is too big for Hydra, which lies along the celestial equator under the signs from Cancer to Libra. Beck considered the dragon a representation of the eclipse dragon, a monster frequently met in Arabic and Indian astrology. He noted that according to Dorotheus of Sidon (first century A.D.), the eclipse dragon "obscures" the signs from Leo to Capricorn, the ones under which the serpent lies at Ponza. This serpent may even recall a specific astronomical event, a total eclipse of the moon, visible in the region of Ponza on 14 August, A.D. 212.[33] Beck pointed out that at this time the sun was in Leo and the moon was at the ascending node, i.e. the Dragon's head was opposite Leo, just as it is on the Ponza zodiac. If Beck is correct - and the theory is plausible - the community at Ponza was sufficiently interested in eclipse phenomena to commemorate an impressive one (a total eclipse) on the ceiling of their sanctuary.

Beck also suggested that the Great and Little Bears that occupy the centre of the Ponza zodiac may be a reference to the events mentioned in

32 Ibid., 1976, 5.
33 Ibid., 1978, 135-6.

the so-called "Mithras Liturgy" [34] which apparently take place at the Pole. Whether or not this is so, the Ponza bears indicate at least that the followers of Mithras were interested in more constellations than just those on the ecliptic and the celestial equator. The polar constellations that never set below the horizon attracted a good deal of interest in antiquity, and we shall meet them again in another context.

G. OTHER MITHRAIC ZODIACS

A few additional zodiacs do not fit into the major categories discussed so far. A room adjoining the Mithraeum at Spolato yielded a marble slab decorated with the signs of the zodiac, which was found together with a sacrificial knife. In the Stockstadt Mithraeum there were some fragments of a marble basin on which Sagittarius and one of the Gemini were preserved. Vermaseren noted that the basin had a coating of lime on the inside and had probably been used for water. Until now the basin and the marble slab are unique among Mithraic finds in that they are the only two examples of small objects with a zodiac, which was apparently reserved under most circumstances for the more important cultic icons.

There are also some representations in bronze of individual signs. Six rectangular bronze plaques showing Gemini, Leo, Virgo, Scorpio, Sagittarius, and Sol in a quadriga were found at Ostia (Fig. 49) and are believed to have probably been from a Mithraeum. In France, five small bronze figurines portraying Aries, Leo, Scorpio, Pisces, and a nude male that may once have held the Balances of Libra were found at Angleur. The figurines and the bronze plaques were apparently parts of zodiacs that had been affixed to something, the latter by nails and the former by bronze hooks. The Angleur figurines were found as part of a hoard of bronze objects, generally regarded as Mithraic, which included among other things three

34 K.Preisendanz, Papyri Graecae Magicae, I, 1973, 88-97.

winged heads of winds, a lion's head with a slotted opening at the mouth, and a free-standing lion. Germaine Faider-Feytmans [35] suggested that they may have decorated a Mithraeum constructed from a natural cave, with which the area abounds, the zodiac figures perhaps forming an arch over the Tauroctony (Fig. 50).

While the zodiac objects mentioned in this section are not out of place in a Mithraic setting, they are different from the majority of Mithraic zodiac objects. The same is true of the zodiac on the Dura Tauroctony, where contrary to other Tauroctony zodiacs, the planets seem to have been placed among the signs. The planets, with the exception of Saturn on the Barbarini fresco, were not usually placed in the zodiacs, perhaps because as patrons of the grades they appeared elsewhere in the Mithraeum as separate images or symbols. On the Dura relief, however, not only has the bust of Saturn been placed on his Exaltation on the autumn equinox, but a crescent appears over Taurus (the moon's Exaltation) and disks, perhaps representing planets, are in Aries, Gemini, Cancer, Leo, and Virgo. These positions do not correspond to a system of Exaltations or Houses, nor to the Thema Mundi described by Firmicus Maternus (Mathes. III, 1, 1-9.). It cannot easily be explained as a horoscope as there is no way of distinguishing one planet from another, but simply places all the planetary bodies on the spring-summer side of the zodiac. The disks appear to represent the planets but the rationale behind the scheme is not readily discernable.

Iconographically, Mithraic zodiacs are unexceptional among examples of their period. Consistent formulae was adopted for the signs in human form, but more flexibility was permitted for the animal signs. Capricorn, for instance, was shown with a short or long tail, but Virgo was always a fully draped woman, often with a covered head, who carried wheat or corn, perhaps

35 G.Faider-Feytmans, "Les bronzes Mithriaques d'Angleur", Bul. des Musées Royaux d'art et d'histoire, Bruxelles, XLVI, 1974, 71-91.

identified with Kore or Demeter (above, p. 167). The signs in human form were undoubtedly distinguished as specific deities, and their iconography was therefore fixed.

CONCLUSIONS

Our study of the Mithraic zodiacs has suggested a number of ideas, some of which may be specifically Mithraic, while others probably belong to the general background of astrological lore, common to antique astral cults. Undoubtedly in the latter category is the notion that the winter half of the zodiac represents the abode of the gods concerned with death and the next world, and we shall meet this doctrine again in other settings. Nevertheless, one would expect Mithraists to incorporate among their symbols ideas generally understood in the cultural milieu, giving them more or less meaning or emphasis according to cult doctrine. The notion of contrasting symbolism in the two celestial hemispheres does make sense of the sombre snake-entwined lion-headed figure who stands grasping a symbolic key on the autumn equinox, where the lower half of the cycle begins. We should not, I think, regard the figure as a "mere doorkeeper",[36] because on the autumn equinox Saturn is in his Exaltation, that is, in this position he must in some sense be all-powerful.

The iconographies of the Tauroctonies and the arrangement of the zodiac on the benches at Sette Sfere suggests that the doctrine allocating Mithras a Throne on the equinoxes is indeed Mithraic. The Michigan astrological papyrus which uses the terms Thrones and Prisons instead of Exaltations and Depressions allows us to conclude that Mithra's Throne refers in fact to an astrological Exaltation on the equinoxes. As bull-slayer, he was Exalted with the triumphant sun on the spring equinox, while on the autumn equinox he was Exalted as Chronos-Saturn. For the identification of Mithras with Saturn we have the direct testimony of Ptolemy, while for his

36 A term used somewhat facetiously by Bianchi, Mysteria Mithrae, Roma-Ostia, 1978, 463.

identification with the sun there are numerous inscriptions addressed to Mithras-Helios. Thus Mithras was evidently the sun on one equinox, and the "night sun", Saturn on the other, a terminology found on cuneiform tablets that continued to be used in the Greek-speaking world, where Saturn was called the Star of Helios.[37] This continuity in the terminology is matched by the continuity of certain icons, which appear first in ancient Mesopotamia and re-appear in Roman Mithraism. Among these icons we must include a young bull-slayer who presses his left knee into the bull's back, as well as a scorpion that attacks the bull's genitals, and twin, torch-carrying deities who serve the sun god.

For the birth relief from Trier I have suggested a new interpretation, one that I believe fits better with the iconography. If the new interpretation is correct, the relief is evidence that Mithraists were not only concerned with the ascent of the soul after death, but were also interested in doctrines concerning the soul's descent from heaven to mortal birth.

The tension of opposites alluded to by Porphyry seems to find expression in the two figures on the equinoxes. The young, vigorous bull-slayer is the antithesis of the motionless, snake-enfolded figure of Saturn. Mithras, as creator, controlled the spring equinox, the gateway to the months of terrestrial growth and generation. As Chronos-Saturn he was the power on the autumn equinox, holding the key to the darker half of the cosmic cycle, and his devotees could address him as saviour. Mithras as a lord of growth and decay, birth and death, was evidently an aspect of deified Time. The theology of Time exerted a pervasive influence in the cults of the empire, as we shall see. Roman Mithraists were apparently aware that their deity, especially as he was manifested in the planet Saturn, was worshipped under different names in other cults. We shall find that the devotees of Mithras might even act as priests to the deities they regarded as other faces of their own god.

37 See ΗΛΙΟΣ in Liddell and Scott, Greek-English Lexicon.

Chapter nine SARAPIS, ISIS, HORUS.

INTRODUCTION

In Egyptian mythology Isis was the faithful sister-wife of Osiris, a god treacherously slain by his brother Seth, but restored to life through his wife's magical powers, and finally avenged by his posthumous son, Horus. The myth is old, and on Pharaonic monuments Osiris was shown in mummy wrappings, a god who presided over and judged the dead. Our concern is with the cult in the Roman empire, but it is necessary to point out briefly that even in Pharaonic times Isis and Osiris were identified with stars, Osiris with the constellation Orion, and Isis with the star Sirius, called Sothis when reference was made to the goddess. The Pyramid Texts and Coffin Texts [1] refer many times to the dead pharaoah's nightly journey across the sky with these divine stars, and the identification is expressed again in early temple chants. In one of the Laments of Isis she addresses her dead brother-husband with these words: [2]

> "Thy sacred image, Orion in heaven, rises and sets every day;
> I am Sothis following after him and I will not forsake him."

Sirius/Sothis is a bright, first magnitude star in the constellation Canis Major, the Dog on Graeco-Roman star-maps. Daily rotation causes it to "follow after" Orion, as Isis describes in her ancient Lament. Each year its heliacal rising marked the beginning of the Egyptian religious calendar and heralded the comming of the annual Nile floods, on which Egypt's prosperity depended. Because of this, Sothis was regarded as a bountiful star, whose good influence ensured the harvest and other material benefits - a contrast to the reputation of Sirius in other countries.

1 For English translations, see R.O.Faulkner, The ancient Egyptian Pyramid texts, 1969, and Idem, The ancient Egyptian coffin texts, vols I, II, III. see index under "Sothis" and "Orion".

2 R.O.Faulkner, "The lamentations of Isis and Nephthys", in Mélanges Maspero, vol. I, pt. I, Orient Ancien, 340, 4, 11-12.

In the fourth century B.C. Isis was already known outside her homeland, and before the end of the century she was invoked in an inscription found in Halicarnassus [3] with a new consort, Sarapis. Like Osiris, Sarapis can be judged from his iconography to be a deity concerned with death and the hereafter, but unlike Osiris, his iconography was not Egyptian. He was Greek in appearance, portrayed as a stately, enthroned figure in Greek dress wearing a calathos on his head. His right hand grasped a sceptre and his left rested on a three-headed Cerberus who sat beside the throne. His facial expression was grave, but benign, and physically he resembled the portrayals of Zeus or his brothers, Pluto and Poseidon. Despite his essentially Greek image, Sarapis has been said to derive from two Egyptian deities, Osiris and Apis, their names combined to form Osir-apis, or Sarapis. [4] In recent years, however, the suggestion of an Iranian origin for Sarapis (Χšαθραρατι) [5] has been revived, a suggestion which the material to be presented in the following pages tends to support.

The assimilation of Sarapis and Osiris allowed Isis and Sarapis to be worshipped as a divine pair, though it is interesting that the earliest invocations to the couple are not from Egypt but from Asia Minor. While Osiris and Sarapis were evidently regarded as two aspects of one deity, Sarapis does not seem to have been equated with the constellation Orion, the astral image of Osiris over many centuries. Rather, we shall see that the evidence suggests Sarapis was another of the deities identified with the planet Saturn, and Aion, deified Time. In this context it is worth noting that an affinity between the cult of Mithras and that of Sarapis

3 L.Vidman, Sylloge inscriptionim religionis Isiacae et Sarapiacae, no.269. Reference due to S.Heyob, The cult of Isis among women in the Graeco-Roman world, 1975, 85.

4 For bibliography and discussion, see J.Stambaugh, Sarapis under the early Ptolemies, 1972.

5 A.D.H.Bivar, "Mithraic images of Bactria: are they related to Roman Mithraism ?" Mysteria Mithrae, Roma-Ostia, 1978, 747-8.

and Isis was evidently recognized by their devotees. R.E.Witt [6] noted that Commodus, Septimius Severus and Caracalla, as well as Julian the Apostate who was a Mithraic pater, all supported both cults, and that a treasury official named Apronianus built a sanctuary to Sarapis and Isis and dedicated a spelaeum to Mithras. In addition, shrines of Sarapis and Isis were sometimes built in close proximity to Mithraic sanctuaries, and in three cases heads of Sarapis were found inside a Mithraeum.[7] We even hear of a priest of Isis whose name was Mithras ![8] Some, at least of the devotees of the two cults evidently regarded them as complementary. The material to be considered in the following pages suggests that this was because they were both aspects of the same Time god, Chronos-Saturn, or Aion in Western terminology, Zurvan in the areas to the east mentioned by Ptolemy in relation to Mithras (above, p. 232), in which the basic theology probably originated.

Apparently by association, similar developments took place in the theology of Isis. Those aspects of her cult already associated with time were given more emphasis, and by the period of the Roman empire her link with Time was of some importance. D.Levi, [9] in a discussion of Aion monuments in 1944, noticed that Athenagoras (Legatio 22, 6) described Isis as the "nature of Aion". The primary link between Isis and Time was through her identification with the star Sothis (Sirius), whose heliacal rising was used to establish the beginning of a new year in the Egyptian religious calendar. We shall return to this presently.

Before considering the monuments, a brief examination of the iconographic and literary evidence for the links between Sarapis and Chronos-Saturn-Aion

6 R.E.Witt, "Some thoughts on Isis in relation to Mithras", Mithraic Studies, Manchester, 1975, 487.

7 Including the fine head of Sarapis found in the Wallbrook Mithraeum, London. See also Vermaseren and Van Essen, Santa Prisca, 134, and CIMRM, 818, 783, 479.

8 Apuleius, Metamorphoses, XI, 22.

9 D.Levi, "Aion", Hesperia, XIII, 1944, 309.

is necessary. Beginning with Saturn, it is fair to describe him as a god of Time and death who was also concerned with fertility. This elementary description also fits Sarapis. His authority over fertility and the underworld is stressed by attributes such as the cornucopia and the snake, and evidently some regarded the apparently benign Sarapis as a god of death and a monarch of the dead. Artemidorus (Oneirocritica, V, 26)[10] said that the name of Sarapis was an omen of death, and according to Dio Cassius (LXXVII, 23, 1-3) Caracalla dedicated to him the sword with which he murdered his brother, and used the temple of Sarapis as his headquarters when slaughtering the Alexandrians. Sarapis as a deity of Time is also well attested. Campbell Bonner [11] drew attention to three inscriptions in which Sarapis was addressed as Aion. One was on a gold tablet found in the mouth of a skull; a second occurs on an amethyst intaglio (BM 56427) where a bust of Sarapis wearing the modius was accompanied by the word AIΩN. Bonner's third example was an inscription dedicated to "Zeus Helios Great Sarapis Aion". In addition to these three, Stambaugh [12] noticed a reference to Sarapis in the Alexander Romance of Pseudo-Callisthenes (I, 30, 6 and I, 33, 2) which extends the deity's power to the cosmos as well as Time. Sarapis was described as "Plutonian Eternity, himself ruling on the five-ridged peaks of Alexandria and turning round the endless cosmos". Material concerning Aion to be examined in the next chapter will show that this description is typical of the imagery used for Aion, who was regarded not only as infinite, but also as the motive power behind the great cosmic cycles. Clearly the basis of an assimilation between Saturn, Sarapis and Aion is present.

The iconography of Saturn and Sarapis was similar, especially when only

10 Reference noticed by J.Stamburgh, Sarapis under the early Ptolemies.

11 Campbell Bonner, "An obscure inscription on a gold tablet", Hesperia, XIII, 1944, 30-35.

12 J.Stamburgh, op. cit. 28 and 84.

the head or bust was shown. Sarapis, like Saturn, was often simply a mature, usually bearded male, with a veiled head. The main iconographic difference was that Sarapis carried the sceptre rather than the reaping hook, as he embodied specific qualities of Time, stressing kingly power and authority over the world. The throne and/or sceptre were perhaps the most constant attributes of Sarapis, and it is worth noting in this regard that the name of the Iranian deity Χšαθραpati, suggested by Dr.Bivar as possibly the source of the name Sarapis, is believed to mean "Lord of the kingdom". [13]

Statues of Sarapis often show the deity accompanied by a snake and the three-headed dog Cerberus. On some examples the snake encircles the body of the dog, sometimes laying his head against one of the heads of the animal, and apparently referring to the symbolism of the Mithraic lion-headed deity[14] who, as we have seen, represents the planet Saturn. The Cerberus and snake evidently allude to a theological concept also embodied in the Mithraic deity, implying a bond between the two cults. The precise meaning cannot be specified, but part of the symbolism can be deduced. Cerberus in the old mythology was the guardian of the gate to Hades, a task that in the astral theology of late gnostic religions we find delegated to planetary archons, and especially to Saturn. According to Origen (Contra Celsum, 30-31), the first and seventh [14a] of the planetary archons was called Ildabaoth, had the form of a lion and corresponded to the planet Saturn. Suggestions by Hinnells [15] and Bianchi [16] that a comparable doctrine may have existed in Roman Mithraism receives support from the monuments.

13 Above, p. 243 and note 5.

14 Examples of the snake-entwined Cerberus may be seen in W.Hornborstel, Sarapis, Abb. 39a-43.

14a Whether the first or the seventh presumably depends on whether one is ascending or descending. Saturn's sphere had the outermost position in ancient cosmology, nearest the vault of the fixed stars.

15 J.Hinnells, "Reflections on the lion-headed figure in Mithraism", Monumentum H.S.Nyberg I, Acta Iranica 4, 358-60.

16 U.Bianchi, "Mithraism and Gnosticism", in Mithraic Studies, Manchester, 1975, 173-4.

Cerberus is undoubtedly a gate-guardian, and in certain respects corresponds to the Mithraic lion-headed deity, who is often portrayed with keys. In the iconography of Sarapis, the snake-entwined Cerberus is a metaphor for Saturn's authority over the entrance to the Hereafter, not otherwise exemplified by the regal Sarapis, but clearly identifying Sarapis with Saturn.

The assimilation of Sarapis and Saturn is a key factor in the interpretation of the Sarapis zodiacs, so one more iconographic element must be mentioned briefly. Sarapis, like the Mithraic snake-entwined figure, was sometimes shown with a globe. A series of terracotta lamps from North Africa on which the bust of Sarapis was balanced on a globe were published by Hombert [17] in 1945. The author drew attention to the globe and noted that Sarapis had the same attribute on coins from the reigh of Antoninus Pius and the emperor Julian, as well as on a medallion in Brussels. Hombert interpreted the globe in terms of cosmic kingship, but I suggest that like the globe with the lion-headed figure, they refer primarily to Saturn's spherical planetary form. Sarapis, who was also addressed as Helios,[18] was evidently equated with both the sun and Saturn, even as Mithras was regarded as the sun and Saturn.

Works of art on which Sarapis, Isis or Horus were represented with the zodiac fall into a restricted range of types, specifically, (i) coins, (ii) gems, and (iii) the decoration of tombs. The majority of these seem to represent a similarly restricted range of time, that is, for reasons which we shall consider, most were created in the second century A.D. They divide into four sections, separated according to the deity with whom the zodiac was shown:

17 P.Hombert, "Sarapis ΚΟΣΜΟΚΡΑΤΩΡ, et Isis ΚΟΣΜΟΚΡΑΤΕΙΡΑ, à propos de quelques terres cuites inédites", L'Antiquité Classique, XIV, 1945, 319-329.

18 J.Stambaugh, Sarapis under the early Ptolemies, 79 lists many examples.

1 SARAPIS There are seven examples.

2 SARAPIS AND ISIS The two are shown together on one coin only.

3 ISIS There are two examples.

4 HORUS There are three examples.

SARAPIS AND SARAPIS-JUPITER

Representations of Sarapis with the zodiac are confined to small items, one being a coin, and the remainder gems. The coin, one of the Alexandrian zodiac series of A.D. 144/5, is the only one of the group to have a conventional zodiac, perhaps because it was designed to be used publicly, and not in a cult setting. It has the bust of Sarapis surrounded by the heads of the planetary deities, the whole enclosed in a zodiac (Pl. 129).

A similar layout was used for an amethyst intaglio in the British Museum (1907.7-17-1) purchased in Egypt in 1907. The gem is oval, and divided by concentric ovals into three zones; the outer zone has the signs of the zodiac, the next the busts of the planets, and the inner zone the bust of Sarapis, facing towards the summer signs (Pl. 93). The planets are not arranged in the order of the days of the week as is usually stated when this gem is described. Rather, it seems to me that the veiled head of Saturn has been placed level with, and behind, the head of Sarapis, with a helmeted Mars under Saturn. Continuing in a clockwise direction there follows Sol with a radiate crown, Luna with a moon crescent, Venus with a star on her head, and then the busts of Mercury and Jupiter - Jupiter presumably being the slightly larger head with the laurel wreath.

The zodiac in the outer ring has one peculiarity. The lion has been taken from his position following Cancer and placed on the autumn equinox, in the position usually occupied by Libra. Assuming that the misplacement was deliberate - and exactly the same arrangement occurs on our next gem - one must assume that placing Leo there was a reference to the lion-headed

deity, who stands at the autumn equinox to guard the entrance to the realm beyond. The fresco in the Palazzo Barbarini Mithraeum, where the space was ample to portray the whole figure, plainly locates the deity in that position. The tiny Sarapis gem made the reference in a more subtle way by moving Leo to the equinox. Like the snake that winds around the dog Cerberus, Leo in his new position establishes a relationship with Mithraic iconography. The planet Saturn, the snake-entwined lion-headed deity, and Sarapis, are all aspects of one god. We shall see as the chapter proceeds that this is not the only zodiac on which a sign has been altered, presumably to make a doctrinal point.

A drawing of an almost identical gem noticed in Cairo earlier this century by R.Pagenstecher [19] was republished by Hornborstel [20] (Fig. 53). Apparently the only difference between this gem and the example in the British Museum was the presence of a large star over the head of Sarapis. Leo has again been removed to the equinox, and the busts of the planets arranged in the same order, with the veiled Saturn behind the head of the central bust. Both stones apparently originated in Egypt, and an identical format may mean that they were produced in the same workshop, but it probably also means that the elements were customary in the iconography of Sarapis.

An onyx gem in the Aquileia Archaeological Museum shows the head of Sarapis surrounded by eight zodiacal signs. The gem was mentioned by Brusin,[21] Malaise,[22] and Budischovsky,[23] but was not illustrated, and

19 R.Pagenstecher, Expedition E.v.Seiglin, II, 1A, 1923, 120.

20 W.Hornborstel, Sarapis, pl.XLIV, no.79 and note 1 on p.147.

21 G.Brusin, Aquileia, guida storica e artistica, 1929, 156.

22 M.Malaise, Inventaire préliminaire des documents Egyptiens découverts en Italie, 1972, no. 33.

23 M.C.Budischovsky, La diffusion des cultes Isiaques autour de la mer Adriatique, I, 1977, 149.

unfortunately none of the descriptions say which of the signs were chosen for inclusion. When a zodiac is incomplete the choice of signs can sometimes be informative.

Three gems on which Sarapis has been associated with the zodiac, or with individual signs, are known from drawings. One, published by Gori[24] in 1750 as part of a collection of ancient gems, shows the head of Sarapis surrounded by a zodiac with many unusual features. First, the summer signs, shown on this gem as Taurus to Scorpio, have been placed in the lower hemisphere instead of occupying their normal position at the top. Virgo, the only zodiacal constellation representing a woman, has been omitted entirely, but a male holding a trident has been inserted among the winter signs. The winter half of the zodiac, given prominence at the top of the gem, bears little resemblance to the familiar winter signs. Sagittarius, Aquarius and Pisces have been included, but not in their usual order; and Capricorn and Aries have been replaced by a dog (or a wolf ?) and a horse. It is possible that the horse, placed next to Taurus in the position of Aries, represents the sun (or Mithras-Helios) on the sun's Exaltation at the spring equinox, and the dog, placed at the winter solstice, may represent Mars Exalted in Capricorn. A mosaic found in Bir Chana, North Africa, to be examined in a later chapter (p.186-8), shows the zodiac and planets surrounding the bust of Saturn. Each of the celestial deities, except Saturn, was accompanied by his or her sacred animal, the horse being allocated to the sun, and the wolf to Mars. Apart from the evidence of the mosaic, the horse was known to have been sacred to Mithras-Helios, and in the Roman world a dog or wolf could be sacrificed to Mars. Thus the icons are not without precedent, and may represent the deities on their Exaltations, substituting for them their sacred animals (Pl. 102).

24 A.F.Gori, Thesaurus Gemmarum Astriferarum Antiquarium, 1750, 17.

The iconography is consonant with a cult concerned about the next world. We have already seen (p. 230) that in some ancient sources the signs to the south of the equinoxes (the winter signs) symbolized the lower world, a concept we shall explore again in relation to funerary zodiacs (Ch. 13). Placing the winter signs at the top of the gem stresses the winter half of the cycle, and confirms the reign of Sarapis in the world to come, indeed, makes that idea the main subject of the image. The omission of Virgo and the addition of the figure with the trident is interesting, as it seems to refer to Mithraic ideas. One is reminded that women were not admitted to the cult of Mithras, and that some Mithraic sanctuaries did contain representations of a Neptune-like figure.[25] The gem could be Mithraic, except that the iconography conforms to no known Mithraic zodiac, or to any other extant antique model. Nevertheless, the iconography does form an intelligible unity, with reference to a cult concerned with the afterlife. Though one cannot rule out the possibility of an early modern forgery from the drawing alone, it seems to reflect an accurate understanding of ancient iconography.

Two other gems known from drawings show an enthroned Sarapis with individual zodiacal signs. One, published by Gori,[26] has a small figure of Sagittarius to the left of the throne (Fig. 51), and the other, published by C.W.King in 1860, [27] has an image of Cancer to the right (Fig. 52). The gems are remarkably similar. Both portray Sarapis with his torso bare, but draped from the hips down. His feet rest on a cushion, the left slightly in advance of the right. He grasps a sceptre in the left hand and holds a round object in the right. The eagle standing at his right foot identifies him as Zeus-Sarapis, an assimilation well-known in ancient inscriptions. The throne is wooden, with a high back and legs that terminate in a triangular piece like an arrow head. In general design it resembles

25 In the Santa Prisca Mithraeum, for instance.

26 A.Gori, Le gemme antiche de Anton-Maria Zanetti di Girolamo, 1750, pl.32.

27 C.W.King, Antique gems, 1860, pl.3, no.11.

the throne of Sarapis shown on the Alexandrian coinage of Hadrian [28] which also includes Cerberus, and may represent a cult statue.

The drawing published by Gori is quite large, allowing the artist to show some details in the background that do not appear in the much smaller drawing published by King. These marks are symbols and monograms of various kinds, i.e. ♎, ♄, ♊, ♑. The first two are well-known astrological symbols that signify the enthroned Sarapis is to be identified with Saturn. The ♄ near the base of the sceptre is Saturn's planetary symbol, and the ♎ near the head represents the zodiacal sign Libra, the Exaltation of Saturn. The symbol ♓ resembles the so-called "Mithraic ladder" known on a number of ancient objects, some Mithraic and others associated with Saturn's cult in North Africa.[29] The remaining symbol is of the same type as the planetary symbol.

There was no mention of comparable symbols on the Sarapis gem published by King. In his general discussion of ancient stones King inclined to the opinion that any gems bearing planetary emblems were automatically forgeries, probably dating to the fifteenth century. This position is undoubtedly too sweeping, and although it would be unwise to insist that the gem in Gori's drawing is genuinely antique, some of the symbols can be paralleled in ancient material. The sign for Libra, ♎, was known at least as early as the fourth century A.D. Neugebauer, [30] while noting the difficulty of determining when such symbols were first used because manuscript copyists sometimes translate symbols into words, or words into symbols, drew attention to a passage from the work of Hephastion of Thebes, which establishes that ♎ was in use when he wrote in the fourth century A.D. I quote Neugebauer's translation:

28 BMC, Alexandria and the Nomes, no.621.

29 M.Leglay, Saturne Africain, II, pl.XX, XXI. For a Mithraic example, CIMRM mon. 1061.

30 O.Neugebauer, "Demotic horoscopes", JAOS, LXIII, 1943, 123.

"All the older ones called the sign after Virgo the Balance and used the following symbol: ♎ ; Ptolemy, however, called it the Claws and used the sign ♏".

Hephastion's work establishes a terminus ante quem for the sign ♎, and says specifically that Ptolemy in the second century A.D. was in the habit of using comparable symbols. Devices similar to the ♄ are known from a century earlier. Some thirty monograms, to which W.Moeller [31] drew attention, were found on Isiac amphorae at Pompeii. Although not precisely duplicating the ♄, they were constructed along similar lines, and indicate that such monograms were in use by 74 A.D. It is significant that the vessels had belonged to the cult of Sarapis and Isis, one of them even marked as having contained Nile water.

The gem published by Gori presents a coherent picture in images and symbols of Sarapis identified with the planet Saturn. One cannot be certain from the drawing alone that the gem is antique, but it is fair to say that the pictorial elements were used in antiquity, and that the engraver, ancient or modern, knew a good deal about the iconography of Saturn. If the gem was produced in the fifteenth or sixteenth century,[32] the engraver used a reliable source of information in combining the images and symbols and we may take it that the gem represents ideas current in antiquity. The Gori gem has an interesting parallel in the gem engraved with the names of Augustus and Livia discussed in ch. 8 (p. 157), as on that stone the symbols for Mars (♂), Venus (♀), Virgo (♍), and Capricorn (♑) were shown. The antiquity of the gem has been questioned because indisputably antique examples of the symbols cannot be cited. Nevertheless, the iconographic elements of both gems have a convincing unity, so the question of their antiquity should remain open for the moment.

31 W.O.Moeller, "Marks, names and numbers" in Hommages à Vermaseren II 807-809.

32 On the subject of early modern forgeries, see Campbell Bonner, Studies in magical amulets, chiefly Graeco-Egyptian, 147.

The gem published by King, although apparently lacking the planetary symbols, closely matches the gem published by Gori in other respects. Indeed, the two form a complementary pair, assimilating Sarapis and Zeus. The throne and sceptre, attributes of royalty, belonged to both deities, and the stately, bearded god could portray either. He is crowned with the calathos of Sarapis, and accompanied by the eagle of Zeus, while the planetary symbols and zodiacal signs provide the clinching sources of identification. The sign Cancer on King's gem represents the Exaltation of Jupiter, and Sagittarius on Gori's gem is the House of Jupiter. As we have seen, the additional symbols on Gori's gem include the signs for Saturn and his Exaltation, Libra.

The conscious identification of the two deities is well-known from inscriptions, and probably rests largely on the idea that both were sky gods. The association of Zeus with the sky would hardly be disputed, and Sarapis-Aion may have been considered in similar terms, as Iranian texts speak of the sky as the body of Time (below, p. 282), a readily acceptable idea in antiquity when the sun, moon, and stars were the ultimate measurers of time. The Mithraic lion-headed deity, with the signs of the zodiac on his body, was evidently influenced by similar notions, and we have seen that this deity shares certain attributes with Sarapis. With regard to the kingly attributes of Sarapis and Zeus another Iranian text quoted by Zaehner[34] is of interest. It asks the rhetorical question, "Who is most kingly ?" and answers, "the firmament, which makes distribution to the world". The "distribution" attributed to the heavens not only took the form of seasons and agricultural products, but as man's life was believed to be governed by the stars and planets, it included the whole of human destiny. It is indicative of the complexity of antique theology that Sarapis was in some sense the planet Saturn, the sky, and eternity, just as Zeus was both the sky and the planet Jupiter. Some sources, however, seem to have regarded

34 R.Zaehner, Zurvan, 397.

all the celestial bodies between the fixed stars and the sphere of the moon as separate aspects of a single, all-encompassing cosmic divinity, whose identity perhaps varied according to the cult to which one gave allegiance.

A further image stressing the kingly qualities of Jupiter, and his reign over the celestial spheres, is found on a monument in the Villa Albani (Canopo, no. 648). Jupiter is enthroned in the ring of the zodiac, which is supported on the shoulders of a kneeling Atlas. One eagle stands beside the throne, and a second is perched on top of the zodiac ring. Behind the regal figure the background is concave, perhaps in allusion to the vault of heaven (Pl. 91). Among the signs, Libra and Aquarius wear a chlamys, and Capricorn is portrayed as a goat, rather than a goat-fish. Such images are rare, but not unique. Zodiacs accompanying Pan (p. 285 and Fig. 55) portray a goat rather than a goat-fish, and we shall see in Chs 15-16 that the goat was often substituted for the goat-fish in the zodiacs of Palestine and other parts of the Near East. The pose of the seated Jupiter is similar, though not identical, to the pose of Jupiter-Sarapis on the gems published by Gori and King.

The same pose, this time seen from the side, recurrs on a gem in the British Museum (65 12 230). Jupiter is seated on a throne furnished with wheels, and is drawn by two eagles. In the field above the eagles gallops Sagittarius, the Day House of Jupiter, and in the field below are the Pisces, Jupiter's Night House. Whereas the Villa Albani monument portrays Jupiter as a sky god, the British Museum gem refers to him as a planet. (Pl. 142).

ISIS

Isis, assimilated to the fixed star Sirius (Sothis), had no real connection with the zodiac, and the two were only linked by a shared function: Sothis and the zodiac were both used for the measurement of time. The Egyptian religious calendar began with the heliacal rising of Sothis, but the concurrently running civil calendar, being a little more than quarter of a day too short (Appendix A.11), co-incided with the Sothic calendar only once every 1461 years. Then, for four years Sothis rose on new year's day of both calendars. The beginning of a new Sothic period in A.D. 139 was equated in popular fancy with the beginning of a new Golden Age, and must have been an event of considerable importance, since it was even commemorated on the imperial coinage (above,pp.163-8). It must also have caused some excitement within the cult of Isis, and indeed, may have been one of the factors that induced the great acceleration in the construction of Isiac sanctuaries during the second century A.D. Form the data supplied by R.A.Wild (see Table 1, below), it is notable that the number of sanctuaries constructed jumped dramatically in the second century when the new Sothic cycle began, and dropped

Date	No. of temples	Date	No. of temples
3rd century B.C.	7	2nd century A.D.	22
2nd " "	5	3rd " "	1
1st " "	4	Unknown	4
1st " A.D.	4	Doubtful sites	6

Table 1. After R.A.Wild, Water in the cultic worship of Isis and Sarapis, p. 5.

away again in the third century. A similar trend can be discerned among the votive inscriptions, which jump from seventy-two in the first century A.D. to one hundred and eighty-nine in the second century. Wild commented that the statistics seemed to indicate "an outburst of religious enthusiasm", which I suggest was probably due to hopes of a new Age of Gold, induced by the beginning of a new Sothic cycle.

On just one object, a coin from the Alexandrian zodiac series of 144/5 A.D., the heads of Sarapis and Isis appear together in the zodiac. They are surrounded by two concentric zodiacs, sign corresponding to sign, to announce symbolically that the Egyptian civil and religious calendars were in agreement again, the one under the control of Isis-Sothis, the other ruled by her consort Sarapis-Aion.

A small number of monuments portray Isis or Horus alone in the zodiac. These evidently rest on a basis of ideas connected with the Sothic cycle. All the known examples were found in a group of rock tombs at al-Salāmūn, near Akhmīn, believed to date to the second century A.D. The ceilings were decorated with paintings of Egyptian deities, including two of Isis in the zodiac, and three of Harpocrates (Horus-the-Child) in the zodiac. A sixth zodiac ceiling can be recognized from a fragment of painting, though now only Virgo and Libra remain. The paintings are all somewhat damaged and the tombs have been re-sealed for some time, but photographs and data were published by Neugebauer and Parker in 1969.[35]

Isis was portrayed riding on the back of a dog. Sirius, the bright star of the constellation Canis Major, is usually referred to as the Dog star. Among the Romans it had a sinister reputation, its heliacal rising credited with causing epidemics among humans and madness in dogs. In Egypt it was Isis-Sothis, herald of the innundation, bringer of prosperity, and in the

35 O.Neugebauer, R.Parker, Egyptian astronomical texts, III, 100-101.

second century A.D., the star that announced the end of one world age and the beginning of another, hopefully better, period. Isis on the Dog's back is understood as Isis-Sothis, emphasizing her identity as a star and a deity of Time. It was an icon well-known throughout the Graeco-Roman world.[36] Comments on the zodiacs themselves will be reserved for our discussion of funerary zodiacs. Suffice for the moment to say that as the fixed star Sothis, Isis could be represented wearing star-decked clothing, [37] but she would only be shown with the zodiac as an expression of her function as Time-keeper, a concept mainly appropriate to the second century A.D.

HŒRUS

Three of the al-Salāmūn tomb ceilings portrayed the young Harpocrates squatting at the centre of the zodiac. According to the traditional Egyptian mythology, Horus was the son of Isis and Osiris, but by the Roman period he was sometimes described as the son of Isis and Sarapis, as indeed he was on a stele of the third century A.D. [38] By the beginning of the empire there was evidently widespread speculation concerning the theology of Time, and as Horus was credited with being the son of two deities of Time, Isis-Sothis and Sarapis-Aion, his own conversion to a Time god was inevitable. R.E.Witt [39] noted that in texts from the Roman period Horus was sometimes called "the Totality of Time", or one who "thinks of the years beforehand". He also noticed that Horus was sometimes shown carrying the harpé, an attribute of Saturn. It is of some interest that Harpocrates-Horus, like the god of Time that we shall consider in the next chapter, could be portrayed as either a boy or a man. As a Time god, Horus is probably

36 On the iconography of Isis on the Dog, see Gisèle Clerc, "Isis-Sothis dans le monde Romain", in Hommages à Vermaseren, I, 247-281.

37 V.Tran Tam Tinh, "Une statuette d'Isis-Ourania" RA, 1970, II, 283-296.

38 R.E.Witt, Isis, 210-211.

39 Ibid.

to be equated with a deity called Mandulis Aion, who had a great temple at Talmis that he shared with Isis and Sarapis, and where he was worshipped as both boy and man.[40]

Comments on the zodiacs that surround Horus-Harpocrates at al-Salāmūn will be reserved for the discussion on funerary zodiacs.

CONCLUSIONS

Except for the zodiac on the Alexandrian coin, none of the zodiacs shown with Sarapis are strictly conventional. The displacement of Leo to the autumn equinox on the British Museum gem, and its counterpart published by Pagenstecher, can be explained in terms of known images, but judgement concerning the antiquity of the gems published by Gori must for the moment be reserved.

In the course of the chapter we have observed some of the iconographic and other elements linking the cults of Mithras and Sarapis. Both, it seems, were in some sense divinities of Time, of whom Chronos-Saturn was an aspect. Speculation concerning Time was many-faceted, and could apparently root easily in alien soil. Elements of Time speculation seem to have been absorbed into the cults of the Egyptian deities, Isis and Horus, perhaps as early as the Hellenistic period, and though their pre-Hellenistic mythology does not suggest any particular emphasis in that direction, the concepts were evidently well-established by the second century A.D.

In the chapter to follow we shall meet further aspects of the pervasive god of Time, and shall find a network of inter-related ideas covering several different cults. In some cases, the theology of Time may have been indigenous to the cult, at other times, as in the case of Isis and Horus, it may have been grafted on to a sympathetic stem.

40 A.D.Nock, "A vision of Mandoulis Aion", in Essays on religion in the ancient world. 1972, 357.

Chapter ten THE GOD IN THE ZODIAC RING

An attractive iconographic motif concerned with Time is preserved in a number of works that date from the second and third centuries A.D. A youthful male deity was portrayed with his hand on a large hoop engraved with the signs of the zodiac, apparently representing the endlessly circling ring of the months and seasons, as seasonal attributes were usually stressed. We shall see that on two examples an inscription identifies the god as Aion, a deity of infinite Time. Aion was widely reverenced in antiquity, and apparently the icon was often used, as on some works the ring representing the circle of zodiacal signs was shown simply as a blank ring, without marks or pictures to indicate separate constellations. The image must have been so well-known that the plain ring could easily be recognized as the zodiacal band, even without being marked into signs. In the following pages I propose to consider eleven works, concentrating on those where the signs were pictured[1] but including a few other important examples. We shall begin with a mosaic on which the most typical elements of Aion's iconography can be isolated, and look next at two mosaics on which the figure has been identified by an inscription.

AION MOSAIC FROM SENTIUM

The mosaic from Sentium (modern Sassoferrato), now in the Munich Glyptotech, may have decorated the floor in the annex of a Mithraeum.[2] A powerfully built young god, his head crowned with a wreath and his hand resting near the spring equinox on a zodiac hoop a little taller than his own height, stands with one foot in the circle of signs, and one slightly

1 For further examples that do not show the zodiacal signs, see A. Alföldi, Aion in Mérida und Aphrodisias, 1979.

2 F. Cumont, TMM II, 419, no. 298. The circumstances of the find, in the early nineteenth century, are uncertain.

advanced. The ring of signs is framed between two trees, each with different foliage, perhaps intended to emphasize the seasonal variations of spring and autumn. The seasons themselves appear as four children, gambolling around a reclining and semi-draped earth-mother. Three are garlanded with seasonal wreaths; roses for spring, grain for summer, and grapes for autumn, while winter is clothed, veiled and carrying a bow. The muscular young god seems to represent a father figure, Time joining with mother earth to generate the seasons (Pl. 95).

The ring of signs has been shown as a ribbon, with length and width but no thickness, a convention that unites this mosaic with the group of images to follow, and probably conveys a popular conceptualization of contemporary science. Zodiacal images on the ribbon make the message clear: the band is the ring of signs whose cycle governs the changing seasonal patterns on earth.

Debate concerning the identity of the god in the zodiac ring which arose in the early part of this century was put to rest in 1944, when Doro Levi[3] recognized the deity in a fragmentary, but captioned, mosaic that had recently been discovered.

THE AION MOSAIC, ANTIOCH

The mosaic was uncovered in excavations conducted by Princeton University in 1939. Four male figures were portrayed, three of them reclining close together on a couch. The middle figure is a man in the vigorous prime of life, while to his left and right are an older man and a youth not yet fully mature. Above their heads inscriptions identify them as παρώχημένος, ἐνεστώς, μέλλων, personifications of the Past, Present and Future. Below the couch a further inscription groups the three under a single heading, χρονοι, Chronoi (Pl. 94). The fourth

3 D. Levi, "Aion", Hesperia, XIII, 1944, 269-314.

man is slightly apart, presumably reclining on another couch, though the mosaic is damaged and only the elderly, bearded head and a little of the shoulder remains. Behind him is a familiar attribute: the ribbon of signs which we have seen in the mosaic from Sentium. An inscription above the figure's head identifies him as Αἰών, Aion. It is worth mentioning that the distinction between Aion and the Chronoi, Past, Present and Future, stressed in this mosaic, is also found in the treatment of deified Time in Iranian sources, where Time (Zurvan) was either infinite or finite. Finite Time was divided into past, present and future, but infinite Time, although the source of finite Time, was itself an indivisible unity.[4]

Levi drew attention to the figure of Aion, pointing out its relationship to the portrayals of the god in the zodiac ring that were known at the time, and discussing ancient literary references to the deity. Since then most scholars have accepted that the god in the ring represents Aion. Nevertheless, it was reassuring when a second, undamaged mosaic was found on which an inscription again identified a figure holding the ring with Aion.

AION MOSAIC, PHILIPPOPOLIS

A mosaic from Philippopolis, Syria, found in 1952,[5] shows a crowded allegorical scene in which almost all the figures were captioned with Greek inscriptions. Prominent in the lower left corner is a seated Aion holding a ring that has been reduced in size, but whose meaning is clearly unchanged, as the four seasons cluster behind him, and a fruitful Earth with children and Horns of Abundance are at his side.

4 R.C. Zaehner, Zurvan, 321 ff.

5 E. Will, Annales archéologiques de Syrie, III, 1953, 27-48.

At the bottom right Prometheus is modelling the first human being watched by a female perhaps representing Venus. Above them, Hermes is standing with Psyche and an unnamed figure, and towards the centre is a seated female representing Agriculture, and a bucolic Triptolemus leading a bull. In a row across the top of the mosaic are the busts of Winds, and two small figures of Aquarius pouring water from vases. In 1960, Charbonneaux[6] noticed that the figure of Aion wears a diadem, and has in fact the features of a Roman Emperor, Philip the Arab (A.D. 244-249), for whom the city of Philippopolis was named. The mosaic is one more example of a Roman emperor posing as a celestial deity (Pl. 96).

A further instance of Aion in the service of imperial iconography is important because it is the earliest example of the icon that can be precisely dated. A COIN OF THE EMPEROR HADRIAN, struck in A.D. 121-122 during his third consulship, portrays on the reverse the half-draped figure of Aion (or the emperor as Aion ?) supporting the zodiac ring with his right hand and holding in his left hand a globe on which a phoenix is standing.[7] The phoenix was a mythical bird believed to live for a very long period, the exact duration varying from author to author. The principal version[8] of the myth records that when the phoenix was finally overtaken by old age, it built a funeral pyre of aromatic plants, which was lit by a spark from heaven. The old phoenix was consumed, but a new, young phoenix rose from the ashes. In the Roman empire the bird seems to have been regarded as a symbol of the successive World Ages, and of Time's infinite capacity for self-renewal. This concept was linked to the hope of a return to the Age of Gold, when all would live in peace and

6 J. Charbonneaux, "Aion et Philippe l'Arabe", Melanges d'archéologie et d'histoire, Ecole Française de Rome, LXXII, 1960, 253-272. Philip celebrated the millennium of Rome in A.D.248. The mosaic may well be a reference to this.

7 H. Mattingly, E. Sydenham, RIC, 1923, II, 356, no. 136.

8 For the various versions of the phoenix myth, see R. van den Broek, The myth of the phoenix, 1972.

harmony. Hadrian included the bird among the symbols on the coin apparently to suggest that his benevolent rule was the beginning of the new era. The figure of Aion in the ring of signs would perhaps imply that the fullness of Time had been achieved, and the Golden Age, symbolized by the phoenix, had dawned.[9]

A portrayal of individual signs on the coin's tiny zodiac ring is almost impossible. Nevertheless, because the image was chosen for use on a coin, the mint authorities must have been tolerably certain that the meaning of the zodiac ring would be recognized, with or without portraying the signs. Presumably, the figure of a standing god in a zodiacal ring shown as a thin band in perspective, must have already been familiar to the people of Rome before the coin was minted. The icon may have been developed by the end of the first century A.D., though the extant examples are thought to date to the reign of Hadrian or later. Earlier portrayals of Aion do not show the ring of signs. Only two are known, both Hellenistic and both identified by an inscription. The earliest is a drawing on an Attic vase,[10] now in Karlsruhe; the other is a figure of the great relief found in recent years in Aphrodisias, and dated to c. 38 B.C.[11] One other representation of Aion, now lost, is known to have existed. A base with an inscription which apparently supported a statue of the deity was found at Eleusis. It has been dedicated by a Roman in c. 74 B.C. "For the might of Rome and the continuation of the mysteries", and described Aion as a Being without beginning, middle or end, who abides forever[12] (SIG 1125). These few examples make it clear that Aion was honoured as a deity by Western people

9 A conceptual relationship between Aion and the phoenix was apparently widely recognized. A coin struck by Antoninus Pius in Alexandria in A.D.139 shows a phoenix with the inscription AIΩN.

10 D. Levi, "Aion", Hesperia, XIII, 1944, 281, fig. 7.

11 J. Reynolds, in A. Alföldi, Aion in Mérida und Aphrodisias, 1979, 38 ff.

12 A.D. Nock, "A vision of Mandulis Aion", in Essays on religion in the ancient world, ed. Z. Stewart, 1972, 382.

well before the beginning of the empire, though our material will confine our attention to a later period.

A remarkable feature of the iconography of Aion, discernible already in the examples that have claimed our attention so far, will soon become even more apparent. Aion could be portrayed as an old man, as in the Antioch mosaic (Pl. 94); as a man in middle years, comparable to the ages of Philip the Arab and Hadrian (Pl. 96); or he could be portrayed in the vigorous prime of early manhood, as at Sentium. We shall see now that he could also be portrayed as a boy.

AION MOSAIC, HIPPO REGIS

A mosaic from Hippo Regis, Algeria, found in a Roman villa and still in situ, is badly damaged, though the central image of the deity supporting the zodiac ring is virtually intact. The figure of the god is a much younger version of the deity than we have seen so far. At Hippo Regis he is a curly-haired lad of twelve or thirteen years. His body is semi-draped and he carries a well-stocked Horn of Plenty in his left hand. His right hand grasps the zodiac ring at the junction of Aries and Taurus, emphasizing the spring signs. Scattered in the field around him are the seasonal products of vegetation: spring flowers, summer wheat, the grapes of autumn, and olives of winter (Pl. 100). The boy is framed in a circular space simulating a canopy, stretched taut to a surrounding ring on a series of attachment points, and suitable for shading a pavilion. Lehmann[13] recognized that the image is a poetical allusion to the canopy of the sky raised as a shelter over the earth. It establishes that the deity is located in the heavens, making the point without the necessity of adding banal symbols such as the moon and stars, which would not be in harmony with the vegetation theme. The mosaic was designed for a floor,

13 K. Lehmann, "The dome of heaven", Art Bulletin, XXVII, 1945, 1-27.

but portrays an image of the sky, probably an intentional parable of an idea that has both physical and astrological implications: that events which occur in the heavens will be reflected by events on earth.

Whereas the mosaic from Sentium takes the form of a tableau, the Hippo Regis mosaic presents its message in the form of luxuriant decoration. Laurel wreaths in interlacing bands encircle the canopy, isolating female figures, of which only two remain. These may have represented the seasons, but the symbolism is obscure. One with a wreathed head seems to be wrapping a bandage about her chest, and the other is a musician, perhaps a reference to the "music of the spheres".[14] The zodiacal ring is constructed so that the six constellations of spring and summer face the spectator. They are shown by the conventional images, except that Virgo seems to have been interpreted as a sky goddess, her mantle billowing over her head.

AION MOSAIC, HAIDRA

A similar theme, this time presenting Aion as an engaging adolescent, was used for a mosaic in Haidra (Ammaedara), discovered in 1960, and now in the United Nations building in New York. The god was portrayed as a youth of fourteen or fifteen years, his body more mature than the boy at Hippo Regis, but still with the supple elegance of youth. He is standing with his weight supported on the right leg, thrusting the right hip up, and lending the body a graceful curve. A floral garland encircles his neck and he carries a sheaf of wheat in his right hand. His left hand rests lightly on the zodiac ring near the spring signs, Aries and Taurus (Pl. 98). He, too, is surrounded by luxuriant vegetation, framed in a scroll of seasonal plants, conveying youthful joys

14 For a discussion of the music of the spheres, see Macrobius, Commentary on the Dream of Scipio, II, iii, 1.

and the pleasures of the senses with charm and delicacy. Once more it is worth drawing attention to a possible connection with Iranian sources, where finite Time was sometimes said to be a youth fifteen years of age.[15]

The mosaics from Hippo Regis and Haidra share the same theme. They are hymns of praise to nature's liberality, and to hedonistic joys, implying that the god who sends such bounty, though as old as the universe, is as young and joyous as each new spring. This is surely the deity who was venerated under the names of "Frugifer" or "Saeculum Frugiferium" in North African inscriptions,[16] an aspect of a multi-faceted god assimilated to Aion and to the planet Saturn.

THE OSTIA AION

A black and white mosaic portraying Aion was found in the Isola Sacra near Ostia, and is believed to date to the early second century A.D. The god is portrayed as an elderly man sitting on a rock, his right hand grasping the zodiac ring, through which the seasons pass one by one (Fig. 63). The ring is not divided into signs, but in this period the ring in perspective was apparently so familiar that it could be adapted or abbreviated without destroying the meaning.

Images of the seasons stepping through the ring of signs are known on medallions, but the Ostia mosaic is of particular interest because it is in a tomb. In antiquity, the idea of rebirth was much discussed, and the perpetual renewal of the seasons portrayed on the mosaic suggests the prospect of renewal for human life. Silius Italicus (Punica, XIII, 561), for instance, says that souls forget Pluto and enter new bodies after the lapse of five thousand years, but a variety of other doctrines were also

15 R.C. Zaehner, Zurvan, 112.

16 J. Salomonson, La mosaique aux chevaux de l'antiquarium de Carthage, 64; and M. Leglay, Saturne Africain, 120-124.

abroad, to which we shall refer again in a later chapter. The elderly man in the mosaic is an aspect of Father Time, but instead of carrying the scythe to mow down the harvest of human lives, as one might expect of his image in a tomb, he is the lord of the cosmic cycles, supervising the ever-repeated dance of the seasons, probably with the implication of bestowing a new physical life for the human soul.

THE CARTHAGE STELE

A stele from Carthage in the Louvre terminates in the head of a young god, his wavy hair adorned with a seven-pointed star. Below the bust, the front of the stele has been engraved with the zodiac ring, shown as a thin band in perspective, as in the mosaics under discussion. The signs were marked on the ring, Aries and Taurus at the top, followed by the summer signs, Gemini, Cancer and Leo (Pl. 92). Only the god's head is portrayed, so there is no hand to rest as usual on the ring. Nevertheless, the ribbon of signs is so characteristic an icon that the deity on the stele must be recognized as the same god portrayed with the zodiac ring on the mosaics. On the stele he is both Aion and Saturn, his assimilation to the latter suggested by the crowning star. Presently we shall find more evidence that the two deities could be regarded as one, but first, further monuments from Carthage will show that Aion could be cast in other characters.

TWO MOSAICS FROM CARTHAGE

The two mosaics, perhaps from the same palatial Roman dwelling, portray the god in the zodiac ring in two quite different aspects. The mosaics, which are believed to date to the period around A.D. 300, were discovered in 1960, when a road giving access to the airport was cut through the ancient city. Being directly in the path of the road, the

mosaics were removed and are now in the Carthage Antiquarium.

Worked in rich polychrome, the mosaics once decorated the floor of a great salon and a nearby triclinium. In the triclinium the deity was portrayed with the attributes of seasonal fertility, his image filling a lozenge-shaped space between four decorative coils of vegetation. The god is nude except for a chlamys falling from his left shoulder, and the crown which adorns his head, to which we shall return later. His left hand supports a cornucopia and his right grasps the hoop of signs at the point of spring. The seasons, represented by four different types of vegetation, fill the four points of the surrounding lozenge (Pl. 99). The light, impressionistic treatment and use of conventional symbols might have suggested that the image was merely decorative, if it were not for the deity's counter-image in the big mosaic nearby in the grand salon.

The mosaic in the grand salon is enclosed by a continuous border of hunting scenes. The large central portion is divided into a series of rectangles, numbering almost a hundred. Some are filled with geometric patterns, but around sixty feature a horse. In each rectangle a little scene with one or more figures is placed in front of the horse or above it, many giving an easily-recognizable reference to a god or hero. One of these units is related to our present topic. A light-brown stallion is portrayed, his head raised, one foreleg lifted as though prancing, and his tail knotted with green ribbons. In front of him is Aion, but this time shown as a naked athlete, his body stocky and muscular, his two hands grasping the zodiac hoop at roughly opposite points (Pl. 97). He has no vegetal attributes, and no easy elegance of pose. Instead, his body gives the impression of being tough and athletically functional, and it is clear that a different aspect of the deity was intended. The zodiac ring is divided on the inside by short lines, with summary markings in each segment to indicate the signs. This is the only example of the icon

showing the signs on the inside of the ring, but for an observer on earth looking out to the sphere of heaven, the image is appropriate and imaginative, for it suggests that the viewer is located at the centre of Aion's ring, just as the earth is apparently located at the centre of the zodiac. Nothing in the mosaic suggests a concern for the seasons, and only the zodiac ring reflects the familiar elements of Aion's usual iconography.

The separate pictures of the mosaic have been linked by a common theme. All of the horses are decked with dress collars and beribboned tails, as though prepared for races at the circus. The theme is continued by a series of eight panels, four across the top and four down one side, showing human figures who are apparently team members of the opposing factions, charioteers and sparsores, ready for the races to begin. Damage to the top of the mosaic has caused the loss of all but one of the charioteers. The remaining figure is distinguishable as a charioteer by his whip and palm branch, his colours showing that he will compete for the reds. The panels showing the four sparsores, the attendants who sprinkle water on the course to lay the dust, or distribute largesse to the crowd, are largely intact, each man carrying an amphora and dressed in a tunic corresponding to a colour of one of the four factions: the greens, the reds, the blues, and the whites.

None of the little scenes in the panels with the horses have anything to do with the circus, but refer rather to the iconography of well-known gods and heroes, as for example, in the picture of the horse with Aion that has been described. The unusual juxtaposition led Salomonson[17] to suggest that the mosaic commemorates actual race horses whose names, instead of being written beside them as on other monuments, are alluded

17 J. Salomonson, La mosaique aux chevaux, passim.

to cryptically by the scene in each panel. Thus, deducing the names of the horses could be a game in which a guest might display his wit and erudition. He pointed out that horses with divine or semi-divine names are known from other sources, and instanced examples of horses called Diomedes, Cupido, Roma and Romulus.

Among representations of circus horses, this mosaic is unique in the number of horses portrayed, as usually a single victorious champion was pictured and named. Many of the horses bear marks on their hind-quarters in the form of initials, symbols, or abbreviated names. Both Salomonson and Dunbabin[18] took these to be stable marks, and noted that the variety of them indicated that the horses could not have belonged to one man. Salomonson suggested, therefore, that the mosaic commemorates all the horses that took part in a particular set of games. Dunbabin found this an acceptable suggestion and elaborated by adding that the mosaic may have been commissioned by a wealthy benefactor, who wished to have a full record of the games he had bestowed. She did, however, comment in a footnote[19] that it would be unusual to find <u>all</u> the horses taking part in a particular event with names susceptible to that kind of interpretation, as opposed to the equally common names derived from the horse's colour, or physical characteristics, or simply names without any real meaning. Salomonson and Dunbabin both noted the popularity of the circus among Romans, particularly in North Africa, where even a tiny centre such as Thugga had a Hippodrome, while in Carthage the Hippodrome was almost as big as the Circus Maximus in Rome.

The long history of the horse in celestial iconography suggests that the mosaic warrants reconsideration, though limitations of space will

18 K. Dunbabin, <u>Mosaics of Roman North Africa</u>, 1978, 95-6.

19 Ibid., 96, footnote 2.

confine our attention to the Aion panel. A curious allegory in which horses personified the various parts of the universe was reported by Dio Chrysostom (Discourses, xxxvi, 42 ff) who attributed it to "certain of the Magi". The movement of the universe, he said, may be likened to a chariot, driven by a charioteer of the greatest skill and power, "unceasingly, in unceasing cycles of time". The universe itself he alluded to as a team of four horses. The horse which is highest in the heavens is immeasurably superior in beauty, size and speed, as it has the outside track and runs the longest course. It is brilliant with the brilliance of flame, and has some conspicuous marks that distinguish it from the other three horses. These marks include the sun, moon and five planets, as well as the fixed stars, "one and all being natural parts of it". The other three horses are beneath this one and inferior to it. One is Air, occupying the space between the earth and the sphere of the moon. Dio said that this second horse is sacred to Hera, and is black in colour. The third horse is sacred to Poseidon, and is the Ocean that surrounds the Earth. The fourth horse is sacred to Hestia and is the earth itself. The last three horses are much more sluggish, and indeed, Earth is entirely still, while the first horse wheels around them all.

Dio then comes to an interesting part of his allegory which deals with the ancient theory of the periodic destruction and re-creation of the universe, occuring over immensely long spans of time. The superiority of the first horse is such, he says, that from time to time he completely absorbs the other three horses. This is not by violence or force, but for the sake of the whole the others willingly yield themselves to him. It is as though they were striving for victory in a great race, which can only be won by the very best. Little by little the three inferior horses transfer their substance to increase the powers of the superior horse, until they are no longer four, but one only. Then when equilibrium is fully established, he re-creates the others again.

The account of the horse that periodically absorbs its companions is a parable describing one version of the events thought to occur during the course of a Great Year. Speculation concerning the Great Year was apparently widespread by the last centuries of the pre-Christian era. Cicero (Republic VI, xxii, 24) defined it as follows:

> "people commonly measure the year by the course of the sun, that is, by one star alone; but when all the stars return to the place from which they first set forth, and at long intervals restore the original configuration of the whole heaven, then that can truely be called a revolving year."

Several ancient sources predicted that within the period of a Great Year there would be two major, all-embracing disasters. One would be a world conflagration and the other a world flood, corresponding in the scale of a Great Year to summer and winter. Berossus[20] related these events to astrological configurations, the conflagration occuring with a conjunction of all the planets in the sign Cancer (the summer solstice) and the flood at a similar conjunction in Capricorn (the winter solstice). Some described these disasters as long, slow processes,[21] a gradual evaporation of the earth's moisture until the planet is desiccated, followed by a reversal of the cycle, causing water to flood onto the earth until it is drowned. Apparently, however, it was envisaged that the floodwaters would restore fertility to the earth, and life would begin anew. Firmicus Maternus, who seems to have envisaged real fire rather than slow desiccation, says (Mathes. III, 1, 9) that the flood must follow the fire as anything burned cannot be reborn until the hardened dust of the ashes is mixed with water. Seneca's version (Nat. Quaest. III, 27, 1ff) was apparently based on a different premise, as he describes how the floodwaters will destroy every living creature on the earth to

20 Seneca, Nat. Quaest. III, 29, 1.

21 C.H. Kahn, Anaximander and the origins of Greek cosmology, 1960, 185, also Aëtius, De plac. philos. II, 5, 3.

make way for a new creation. Firmicus, on the contrary, assumes that everything will be dead before the flood commences. Dio's parable of the horse that periodically absorbs its four fellows seems to refer to a doctrine of cyclic changes that would occur in the course of a Great Year.

Returning now to the Mosaic of the Horses in Carthage, one could interpret the image of Aion as the Charioteer who drives the universe, portrayed with the superior outer horse. Salomonson[22] and Dunbabin[23] both noted that in the Roman empire the symbolism of the universe was applied to the circus. The twelve gates of the stables from which the horses emerged symbolized the twelve signs of the zodiac, or the twelve months that they represented. The course itself was likened to the cycle of the year. Each race consisted of seven laps of the course, the number alluding to the seven planets, who in turn presided over the seven days of the week. The seven laps were measured by moveable eggs and dolphins, symbols of the Heavenly Twins and Neptune, patrons of horses. Twenty-four races made up a full day's programme, and referred to the twenty-four hours of each day. Victorious quadrigas represented the sun and bigas the moon. In addition, the four opposing factions were regarded as symbolizing the four seasons - the green equated with spring, the red with summer, the blue with autumn and the white with winter.[24]

Hanfmann,[25] who also wrote on this subject, noted that the application of cosmic imagery to the circus is not attested in literature until the second or third century A.D., mentioning sources such as Tertullian De spectaculis IX (c. 193-220 A.D.) and Charax of Pergamum,

22 J. Salomonson, La mosaique aux chevaux, 54 ff.
23 K. Dunbabin, Mosaics of Roman North Africa, 88, 103-4.
24 See the Oxford Classical Dictionary, under "circus".
25 G. Hanfmann, Seasons Sarcophagus, 159 ff.

who wrote after 249 A.D. but before the sixth century. Hanfmann wondered if the connection between the circus and the cosmos may have been invented by Suetonius, who wrote On the spectacles and games of the Romans (now lost) during the reign of Hadrian. Nevertheless, the two had been linked in earlier literature, though in reverse; rather than applying cosmic imagery to the circus, earlier writers applied circus imagery to the cosmos. Dio Chrysostom, who lived in Bithynia c. 40-120 A.D., certainly had the circus in mind when, in the passage discussed above, he likened the outer spheres of the universe to a horse, spoke of its distinguishing marks, and mentioned harnessing the best horse in the outer position, an idea that any charioteer would have understood. He then referred to the horses running a course, and striving for victory, clearly circus imagery. Plato, too, had used equine similes to describe cosmic ideas. In Timaeus 41E he declared that every soul had been assigned a star, as though the two were harnessed together in a chariot, and in Phaedr. 246A the ascending soul had difficulty with unruly steeds. Hanfmann noticed a fragment of Euripides (Nauk, frag. 937) in which the horses in the sun's chariot were equated with the seasons. A relationship between the imagery of the circus and the cosmos was certainly not new in the second century A.D.

In the Maison du Paon, Carthage, a panel under the peacock mosaic uses horses in a portrayal of the seasons. Each horse is decked with a ribbon collar: the one wearing green nibbles at spring roses, the horse with a red ribbon feeds on the grain of summer, the blue-ribboned animal eats the grapes of autumn, and white is regaled with winter olives (Fig. 62). The seasonal plants spring from three jewelled containers. The attributes of summer and winter, the seasons of extremes, grow from the two outside containers, while the plants of spring and autumn, being like seasons (Manilius III, 658-665), sprout from the one container in the middle. The four horses consume the plants of the seasons, and

therefore seem to represent the passage of Time, or the relentless, rolling cycle of the sky, which likewise consume one after another the seasons marking the span of a human life.

Another curious mosaic from Carthage (IMT 694) shows four horses arranged so that all shared the same head (Fig. 61). One is again reminded of Dio Chrysostom's horse of the outer spheres of the universe, which not only embodies the prime source of strength and intelligence for the whole team, but from time to time physically absorbs its three companions. Cumont[26] expressed the opinion that the myth is genuinely from a Magian source, and Zaehner[27] suggested that it might be Zurvanite. As an allegory of cosmic time, the myth is an interesting parallel to the Aion panel of the Mosaic of the Horses, as well as the two mosaics just described.

The seasonal horses from the Maison du Paon prove that in North Africa the portrayal of a horse could have a cosmic significance. This was undoubtedly true in Carthage, for the horse's special status in relation to the city is apparent from its use on early Carthaginian coins, dating from before the Roman conquest. The horse on the coinage is assumed to allude to the city's god, Ba^{c}al Hammōn,[28] whose consort, Tanit Pene Ba^{c}al (the face or manifestation of Ba^{c}al) appears on the reverse wearing a wreath of corn. Horses were also known on funerary monuments, presumably referring to the same deity. Ba^{c}al Hammōn is thought to have been a sun god,[29] though in later centuries monuments and inscriptions suggest that the Punic Ba^{c}al was revered as the African Saturn.[30] Thus, like

26 F. Cumont, TMM, II, 60-64.

27 R. Zaehner, Zurvan, 226-228.

28 G.K. Jenkins, R.B. Lewis, Carthaginian gold and electrum coins, 1963, 11-12. E.S.G. Robinson, Review of the volume above, NCh. 1963, 285-6.

29 Ibid.

30 G.C. Picard, The life and death of Carthage (Engl. trans. 1968) 48, refers to Ba^{c}al Hammōn as "El-Kronos".

Mithras and Sarapis, Ba^{c}al Hammōn seems to have been regarded as both the sun and Saturn. The horse may have been associated particularly with his aspect of sun god, as we find the horse portrayed as the sacred animal of the sun on a mosaic from Bir Chana, to be examined below (p. 286). The corn wreath worn by Tanit, "the manifestation of Ba^{c}al", harmonizes with the iconography of the Aion mosaics. Throughout the empire an assimilation of Chronos-Saturn and Aion was widely recognized, and the mosaics of Aion found in North Africa where inscriptions invoking Saturn abound, suggest that in this area the same ideas prevailed.

Because the horse was traditionally sacred to the Carthaginian god, new allegorical imagery linking the horse and the material universe that might penetrate from external sources could be readily absorbed, and a myth such as the one related by Dio Chrysostom reaching North Africa might be taken as an allegory of their own deity. The two mosaics in Carthage portraying Aion with the zodiac ring may represent two aspects of the theology of the Carthaginian god as it developed in the early centuries of our era. In one he is Aion, the Charioteer who guides the material universe; and in the other he is crowned the prince of fertility, the ruler and benefactor of his city.

THE PARABIAGO DISH

Aion was portrayed as one element in a complex scene on a silver dish from Parabiago, Italy, found with other silver in a sepulchral area in 1907 and now in the Galleria Brera, Milan (Inv. no. 18901). The dish is decorated in relief, depicting Aion as part of a composition in which Cybele and Attis, seated in a carriage drawn by four lions, form the central group. The goddess and her young lover, protected by three dancing curetes, are surrounded by the deities and symbols of cosmological order and earthly bounty. Sol's horse-drawn quadriga has begun its

ascent above the eastern horizon, while Luna's biga, drawn by a pair of oxen, is descending towards the west. The two celestial chariots are preceded by winged figures carrying torches, presumably Phosphorus and Hesperus, the morning and evening stars. At the lower right a reclining Earth, whose fecundity is suggested by two infants and a snake-wreathed cornucopia, watches the progress of the seasons. They are portrayed as children: naked, dancing Summer carries a sheaf of wheat; Autumn, wearing a chlamys, is holding a bunch of grapes; Spring, dressed in a tunic, is carrying a lamb; and fully-draped Winter bears two ducks and an olive branch. Beneath the seasons the head and shoulders of Oceanus and a Nereid rise from the waters of Ocean, and to the left, two figures with reeds and an amphora probably represent the fresh water rivers. Above the head of Earth are a cricket and a lizard (Pl. 101).

A mountain-top to the centre right of the scene unites a group of images that we shall see presently are closely related to each other and to the scene as a whole. Emerging from the flat top of the cosmic mountain, the upper part of the body of Atlas supports the familiar ring of zodiacal signs in which Aion stands. He is portrayed as a powerful young man, semi-draped and carrying a sceptre, his hand resting on the junction of Aries and Taurus. Beside him, a stele entwined by a serpent rises from a stepped pedestal.

Cosmic symbols scattered throughout the composition indicate that the action takes place in the sky. Earth, Ocean and the Rivers are relegated to the base of the picture and celestial bodies such as the sun and moon, the morning and evening stars, and the ring of signs, are present. Even the curetes have helmets and shields decorated with stars, and may perhaps have been identified with constellations such as Perseus and Heracles. The point is clearly made that the changing patterns in the sky are responsible for the varying rhythms on earth.

In this context, Aion is the controlling force behind the cyclic disappearance and reappearance of Attis. The wedding of Cybele and Attis was said to take place in spring, and Aion rests his hand on the zodiacal signs of Aries and Taurus to indicate the return of the joyous season. In a sense, Attis was also a Time god, his mythical life regulated by the passage of the sun through the zodiac. Cumont[31] mentions texts in which Attis was called "Lord of the months", and "shepherd of the twinkling stars". Like the sun, Attis was Exalted in spring by his marriage to the goddess. Autumn saw his fall from grace, repentance, castration, and death - a Depression in every sense of the word! Whether the astrological theme of Exaltations and Depressions was ever consciously applied to Attis is unknown, but on the Parabiago dish, surrounded by the elements of the material universe, and the sun and moon whose progress marks the passing days and months, the symbolism of Attis is surely cosmic and temporal, complementary to the symbolism of Aion. Presumably, we are to see in Attis the annual cycle of terrestrial nature, while Aion represents the great universal cycles, endless Time, governing the minor cycles on earth. Zaehner[32] noted that in eastern sources, Zurvan, Time, was not only the inaccessible sky god controlling an inexorable fate, he was also a god of the earth, of life and death, birth and decay. The references to Attis as lord of the months, and shepherd of the stars noticed by Cumont, as well as the iconography of the Parabiago dish, suggest that at least in some centres Attis, like Mithras and Sarapis, was regarded as another of the aspects of the pervasive god of Time.

Aion on the Parabiago dish carries the sceptre, the emblem of royal authority. This royal accessory relates him to the Aion mosaic in the triclinium at Carthage (above, p. 269), but more especially to Sarapis,

31 F. Cumont, Oriental religions in Roman paganism, 61, 69.

32 R. Zaehner, Zurvan, 242.

whose link with Aion has already been noted. The kingship of Sarapis was constantly stressed in his iconography, and we have seen that kingliness was one of the attributes of Time in Middle Eastern sources. Aion apparently had many names and faces, but such iconographic links lend further substance to the idea already expressed several times in the pages above, that his devotees, although preferring allegiance to one aspect of their deity, recognized the others as the same god.

AN ANALYSIS OF THE ICONOGRAPHY OF AION

The eleven representations of Aion described in this chapter are united by a common icon: the zodiac ring, whose endlessly rolling cycles make it a fitting attribute for a god of Time. Not only is the zodiac the path of the sun, moon and planets, but its own apparent diurnal and annual motion can be used to measure the passing of the hours and seasons, that is, in its own right the zodiac is a Wheel of Time. Levi[33] noted an apt description of our monuments by Proclus (In Timaeum 242D) who mentioned Aion as always turning an untiring wheel, and staying it.

A lost painting of Aion was described by John of Gaza, whose commentary on the deity is worth recording. The quote was noticed by Levi,[34] and I use his translation, which differs slightly from Friedländer's reading.

> "And self-sown Aion was represented in blooming splendour leaning towards another running circle of the much-whirled years, the forefather, surrounded by the ever-running roads; he who preserving the generation in an intellectually perceptible rotation, and lifting the whirling helm of harmony, herds the year of twelve months, turning it around, and causing one year to discharge into another, then noiselessly creep away."

33 D. Levi, "Aion", Hesperia, XIII, 1944, 291.

34 Ibid. The principal edition of John of Gaza is P. Friedländer, Johannes von Gaza und Paulus Silentiarius, kunstbeschriebung in Justinianischer zeit, 1912.

In some characteristics the images of Aion varied considerably, not least in the portrayal of the god himself, who is at one time an old, bearded man, as in the popular conception of Old Father Time, at another robustly mature, and again a young boy. Each has its own logic. If Time is regarded as ageless then the figure in youthful maturity, perpetually at the height of his powers, conveys the idea; the figure of an old man will best emphasize the long cosmic ages; but if the theme concerns the renewal of Time, in the spring of the year or at the beginning of a new age, the figure of a young boy is appropriate. One is reminded of the statement of Philoxenos of Maybbug (c.A.D.450–c.522). a Christian writing in Syriac, who noted, apparently with surprise, that there are people who hold the opinion that the Ancient of Days (Dan. 7, 9) is a boy![35]

We have suggested above (p. 267) that the concept of a very youthful Time god may owe something to Iranian sources, where Ohrmazd was said to have created finite Time (i.e. Time in relation to terrestrial matters) as a strong and beautiful youth of fifteen years. The tradition stresses the seductive qualities of the deity, and it is the same theme that predominates in the North African mosaics portraying the youthful Aion, who with grace and charm seems to offer every hedonistic joy.

Inevitably, Aion was identified with Chronos-Saturn, the planet whose sphere was the most remote from earth, placed close to the source of Time in the great vault of the fixed stars. Other well-known deities were also sometimes addressed as Aion. Some have already come to our attention, brought into focus by a shared use of the zodiac in their iconography. It is notable, however, that other attributes were also held in common by deities identified with aspects of Time; these were, apart from the zodiac, the seasons, a serpent, the attributes of a gate-

35 Philoxenos attributed this heracy to Bardaisan, see H. Drivers, Bardaisan of Edessa, 196. Philoxenos' statement may be found in Nau, Patrol. Syr. I, 2, p. 511.

guardian, and the attributes of kingly authority. A brief examination of the list will emphasize that a connection does exist between the cults in question, and perhaps indicate some common ground as a starting point for future research.

THE ZODIAC The zodiac is an appropriate attribute for a deity of Time, being itself a time-keeper. Its circular form suggests continuity and motion, and it is a symbol of the sky, the location of the only sources of accurate time-keeping in antiquity. The images of Aion stress that it is an endless ring, but at the same time the spring signs, Aries and Taurus, are given prominence, so that renewal and rebirth is as much a part of the symbolism as continuity. The zodiac was an attribute of Aion, Sarapis, Phanes, Mithras, and the Mithraic lion-headed Chronos-Saturn, all in some sense associated with the concept of Time. The last-named bore the signs directly on his body or clothing, a perfect expression of an idea found in Iranian texts, that the sky is the body of Zurvan (Time).[36]

THE SEASONS The Aion images discussed in this chapter almost invariably alluded to the seasons, the exceptions being the mosaic of Aion with the horse (p. 269), and the Aion stele in the Louvre (p. 268). The seasons were often included in Mithraic Tauroctonies, and were grouped with the Mithraic lion-headed deity on seven monuments.[37] Sometimes the intimate relationship between Time and the seasons was accented by portraying the seasons on the deity's wings.

THE SERPENT The Mithraic Chronos-Saturn and the Orphic Phanes were both portrayed wrapped in the coils of an enormous serpent, whose head rested upon the head of the god. The image appears again in the

36 R. Zaehner, Zurvan, 112.

37 CIMRM, nos. 75, 312, 1082, 1137, 1282, 1685, 1727.

iconography of Sarapis, where instead of coiling around the deity himself, the snake entwines an attribute of the god, the dog Cerberus, resting his head upon the dog's head. On the Parabiago dish, Aion holding the ring of signs is accompanied by the serpent, though again, the serpent does not encircle the body of the god, but coils around a stele beside which the god stands. Sarapis and Aion apparently represent aspects of the deity in which the serpent takes a secondary place, as it wraps their attributes rather than themselves. Nevertheless, its presence with them on some of their images indicates a conscious identification with the Mithraic lion-headed deity, and the Orphic Phanes. It may even be that the snake in the Tauroctony is an allusion to the same serpent.

THE ENTRANCE GUARDIAN Just over half the extant images of the Mithraic snake-entwined Chronos-Saturn portray him with keys. In the cult of Sarapis the entrance guardian symbolism was taken over by Cerberus, the traditional guardian of the entrance to Hades. This symbolism does not seem to have been associated with the god holding the zodiac ring.

THE ATTRIBUTES OF KINGSHIP Icons of Sarapis show him as the embodiment of regal authority; he was seated upon a throne; he carried a sceptre; and he was crowned with a modius. Aion has a crown and sceptre on the triclinium mosaic from Carthage, and a sceptre on the Parabiago dish, clearly suggesting his assimilation to the regal Sarapis. We shall find further examples in the chapters to come.

These shared attributes suggest the possibility of a certain amount of common ground in the ideas of the cults, though an investigation of this would be beyond the scope of the present study. As well as the gods mentioned so far, two Egyptian deities, Isis and Horus, were also drawn into the circle of deified Time, the assimilation probably occuring

early in the Roman period, and certainly by the second century A.D. when the new Sothic cycle began. This has already been discussed, and here it is only necessary to note the words of Apuleius (Metamorph. XI, 7), who addressed Isis as the "mother of the stars, the parent of the seasons, and the mistress of all the world". The allusion to the stars, seasons and worldly authority accords well with the imagery described in this chapter for Aion, the ideas probably entering the cult of Isis through her association with Sarapis.

Aion should also be recognized in the deity bearing aloft the souls of Antoninus Pius and Faustina (above, p. 185 and Pl.128). The zodiac stressing the signs of spring, and the snake that twines the globe and points with his head to the head of the god are unmistakably related to the imagery examined in this chapter and the two preceding chapters. Allusions to the deity carrying the emperor and his wife occur on coins and medals struck during the reign. For instance, a medallion shows Aion holding the zodiac ring in one hand, and bearing a sceptre in the other;[38] a coin shows the long-lived, self-renewing phoenix with the inscription AIΩN;[39] and a second medallion which seems to bear on the same theme shows Tellus and the seasons under a zodiac arch portraying the signs of spring and summer (above, p. 188).

The decorations of the zodiac ceilings from Hadrian's Villa also suggest allusions to Aion. The luxuriant and playful use of the vegetation on both ceilings coupled with the arrangement of the signs into seasons on one and the emphasis on Libra (Exaltation of Saturn) on the other, are in keeping with the iconography of the Time god. It is interesting that a coin struck during Hadrian's reign once again portrays

38 Cabinet des Medailles, see A. Alföldi, Aion in Mérida und Aphrodisias, pl. 12.

39 BMC, Alexandria and the Nomes, no. 1004.

Aion in the zodiac ring (above, p. 263).

Speculations concerning Time were evidently part of the philosophical climate of the Roman empire, especially during the second century A.D. The emperors Hadrian, Antoninus Pius and Philip the Arab (above, p. 262) were all apparently interested in the deity, and perhaps also Commodus, who had himself portrayed as Saturn.[40] References to the Great Year, or to the dawn of a Golden Age are common in Roman literature. Seneca Nat. Quaest. III, 27, 1 ff.) for instance, described in vivid detail the great flood that would destroy every living creature on earth, so that a New Age could begin with the innocence of newly created man. The ideas assuredly had a Mesopotamian origin, but were taken up at an early period by Greek thinkers, and by Seneca's time must have been as well-known on a popular level as other ideas connected with the heavens and the celestial bodies.

One other deity evidently equated with the material universe must be mentioned briefly. Images cut on gems of the goat-footed god Pan surrounded by the zodiac have been noted by modern scholars.[41] One shows the god and a goat standing by a blazing altar (Fig. 55). The image appears to be a punning allusion to the name Pan. A more explicit image was published in a seventeenth century volume dealing with a range of arcane material.[42] A winged Pan with horns and a goat's body below the waist is portrayed as an image of the universe. Fields and villages appear on his hairy flanks and the seven great cosmic spheres emanate from his Pan pipes. These images seem to have an Orphic background.

40 C.C. Vermeule, "Commodus, Caracalla and the Tetrarchs", Festschrift für Frank Brommer, p. 249, pl. 78, 3.

41 See Catalogue of zodiac monuments, no. 95.

42 Anthanasii Kircheri, Oedipus Aegyptiacus, Rome 1652, 204.

Leisegang[43] drew attention to an Orphic text referring to Zeus as the marshaller of all good things and the whole cosmos, "whence he is called Pan". He noted too, that Plato (Cratylus, 408 B) in a discussion of Orphic material was evidently aware of the same imagery, so that it apparently dates from an early period.

Of the eleven representatives of Aion in the ring of signs considered in this chapter, almost half were found in North Africa and may refer to a deity known as the African Saturn. The Latin name undoubtedly conceals an indigenous deity, whose identification with Saturn would render him susceptible to an interpretation as Time. Before leaving this deity one more North African zodiac must be mentioned.

SATURN MOSAIC, BIR CHANA

The mosaic, discovered in 1890 and now in the Bardo Museum, Tunis, shows the seven planetary deities surrounded by the zodiac. Within the mosaic's hexagonal shape, hexagons and triangles - both astrologically propitious - have been combined in various ways to create the structure of the design. Two overlapping triangles form a great six-pointed star, whose hexagonal centre is filled with a smaller six-pointed star. At the very centre of the mosaic is the bust of Saturn, veiled and carrying a harpé, placed within a hexagonal medallion. Arranged around him in six more hexagonal medallions are busts of the remaining celestial deities, each with their characteristic attributes. The sun has a radiate head and carries the charioteer's whip; the moon has a nimbus and torch; Mars has a helmet and spear; Mercury wings and a caduceus; Jupiter has a thunderbolt and Venus a peacock's feather. Six rectangles fill the spaces between the points of the inner star, each containing a bird or

43 H. Leisegang, "The mystery of the serpent", in The Mysteries, Papers from Eranos Yearbooks, 1955, 208-9.

beast sacred to one of the deities and placed to the right of the god or goddess with whom it was associated. To the right of Jupiter is an eagle, to the right of Venus is a peacock,[44] the sun's animal is a horse, the moon's animal a bull. For Mars there is a wolf, an animal favoured for sacrifice to the war god, and associated with his offspring, Romulus and Remus. For Mercury there is a goat, as Mercury was a protector of flocks and herds and especially of sacrificial animals. It is worth noting that the busts of Saturn and the sun are placed one above the other, oriented to be upright from the same side of the mosaic, and facing in the same direction. In this way the mosaic suggests a relationship between the sun and Saturn different from that among the other celestial deities, and confirms that this relationship, encountered first in Mesopotamian texts, was known in a North African context (Pl. 102).

Beyond the ring of sacred animals the signs of the zodiac are shown in separate medallions, alternating circles with hexagons. Astrologers divide the zodiac into masculine and feminine signs,[45] and speak of feminine signs being in sympathy with feminine signs, and masculine with masculine.[46] The Bir Chana zodiac places all the masculine signs in hexagons and arranges them within the points of the outer star. The feminine signs are in circles alternating with the hexagons. Thus the mosaic stresses the astrological idea that adjacent signs are unlike and out of sympathy with each other,[47] as also are the signs separated by two signs, for a line connecting every third sign forms the astrologically dangerous square.[48]

44 For the relationship between Venus and the peacock, see H. Stern, Le calendrier de 354, 184.

45 Manilius, Astronom. II, 150-154. Ptolemy, Tetrabibl. I, 12.

46 Manilius, Ibid., II, 380 f.

47 Ibid., II, 385.

48 Ptolemy, Tetrabibl. I, 13. Ptolemy relates them to musical intervals, and therefore thinks of them as discordant or inharmonious.

Other astrological doctrines are also given visual expression in the mosaic. The major structural lines of the design not only create a symbolic star, but by forming the star with overlapping triangles exemplifies the system of Triangles, to which Ptolemy devotes ch. 18 of Tetrabiblos I. He says that the equilateral triangle produces a harmonious relationship within itself, and that the twelve parts of the zodiac divide into four equilateral triangles which are alternately masculine and feminine. The insistance in the design on geometric forms suggests an interest in Pythagorean number theory, and indeed, it has been thought that the triangle as a geometric figure was a symbol of Saturn.[49]

The layout of the mosaic was apparently intended to suggest a coffered ceiling, i.e. heaven, the proper setting for the zodiacal signs. From there the planetary deities gaze down to the world of men, as though through a series of windows, or oculi. The zodiacal signs on a heavenly ceiling parallel the concept behind the mosaic from Hippo Regis, where Aion is displayed on a sky-canopy (above, p. 265 and Pl. 100). The mosaics, underfoot on the floor, portray the heavens, infering that the earth is in sympathy with the great cosmic processes, reflecting events that occur in the sky through seasonal changes and all astrologically directed events - that is, through the Necessity of Fate.

The hexagonal coffering filled with the busts of the celestial deities at Bir Chana is reminiscent of the scheme that we shall find on the zodiac ceiling of the Temple of Bel in Palmyra (below, p. 315) where the busts of the planetary gods are again arranged in a series of hexagons. The difference is that in the Palmyrene temple Bel-Jupiter is the principal deity, occupying the position at the centre of the scheme,

49 W.O. Moeller, The Rotas-Sator Square, 14.

whereas in North Africa, that position was reserved for Saturn.

The theology of deified Time seems to have touched a responsive chord among the peoples of the Roman Empire, who cast the god in numerous roles and portrayed him in as many personas, from the hedonistic boy surrounded by the opulence of the seasons, to the melancholy, even austere figure at the centre of the Bir Chana zodiac, or the fearsome lion-headed deity in Mithraism.

Chapter eleven

THE SUN AND MOON

Sol and Luna were the most conspicuous of the celestial bodies whose path lay through the zodiac. The moon's gentle radiance allowed the stars to be seen when she was in possession of the sky, and her course among the zodiacal constellations could be observed on any clear night. Equally, the ancients were well aware that the stars were still in the sky during the daytime, but that the stronger, more aggressive light of the sun rendered them invisible. The astronomers of ancient Mesopotamia already understood this, and cuneiform eclipse records made special mention of the occasional total solar eclipse when the sky was sufficiently darkened for the planet Venus or certain first magnitude stars to be visible.[1] Thus the zodiac might be considered a natural attribute for a solar or lunar deity, and in the following pages we shall consider its use in that context.

THE SUN AND MOON TOGETHER

Busts of the sun and moon encircled together in the zodiac are known on five ancient objects, all apparently produced in Egypt, probably in Alexandria, where the two deities seem to have enjoyed some popularity, as Skowronek[2] noted that the names Helios and Selene were inscribed on two of Alexandria's gates. At some periods it seems to have been fashionable to portray the Roman emperor and empress as the sun and moon, as for instance on the Alexandrian coins of A.D. 141/2, which have been

1 One notable record of a total eclipse has been described as possibly the best account of an eclipse to have survived from antiquity. It is on a late cuneiform tablet from Babylon (15 April, 136 B.C.) specifying the exact time and dimensions of the eclipse in degrees of arc, and noting that Venus, Mercury, Mars and Jupiter, as well as a number of fixed stars were visible. The tablet is in the British Museum (BM45745). See A. Aaboe, "Observation and theory in Babylonian astronomy", Centaurus XXIV, 1980, 23.

2 S. Skowronek, On the problems of the Alexandrian mint, 1967, 19.

interpreted as representing Antoninus Pius and Faustina in those roles.[3] Nevertheless, the sun and moon do not seem to have been regarded as a divine pair, except in some late Gnostic thinking. As Apollo and Artemis they were brother and sister, neither of whom shared their cult with a divine consort.

Jugate busts of the sun and moon ringed by the zodiac appeared in A.D. 144/5 as part of the Alexandrian zodiac series, minted by Antoninus Pius to commemorate the new Sothic cycle (above, pp. 163-7). A second coin in the same series also displayed busts of the sun and moon, this time encircled in two concentric bands by the zodiac and planets. The choice of Helios and Selene as a pair on the zodiac coins may have been to serve political ends, the coupled busts of the celestial deities reigning over the zodiac to parallel the idea of the emperor and his wife ruling the empire. At the same time the coins probably admit a popular reverence for Helios and Selene in Alexandria, and acknowledge their astrological importance. They were deities who measure time and foretell destinies, and who were therefore an appropriate choice for coins commemorating a new Sothic cycle.

The following objects on which the sun and moon were portrayed together in the zodiac are astrological, used as we shall see in Chapter 16, for casting horoscopes. One is a marble plaque found in Cairo by M. Daressy (below, p. 364). The plaque was round, divided by concentric circles into three zones, the inner circle containing two jugate busts, one with a radiate crown (Sol), and the other with a moon crescent (Luna) (Pl. 117). The two outer rings contained the zodiac and the animals of the dodecaoros (Appendix A9). Other examples are on ivory diptychs found in excavations in France on which the zodiac encloses a goddess with

3 S. Skrowronek, op. cit. 22 and Pl. III, 11.

a crescent diadem, undoubtedly Luna, and a youthful male deity with no visible attributes, presumably Sol (Pl. 118). Beyond the zodiac, a further ring displays the thirty-six decans, portrayed as Egyptian divinities with their names inscribed in Greek characters (below, p. 371).

In this context, the busts of the sun and moon presumably acknowledge the importance of these deities in a horoscope. According to Ptolemy (Tetrabibl. I, 2, 3), the sun's power prevails in the general ordering of life's quality, but the planets, and especially the moon, aid or oppose it in particular details. In addition, many astrologers regarded their profession as holy. Manilius (Astronom. I, 25) says that man's knowledge of the heavens is a gift of the gods, and Firmicus Maternus (Mathes. II, xxx, 2) described the astrologer as the acolyte of the sun and moon, and exhorted him to be worthy of his calling. Portrayals of the sun and moon on the astrological planispheres allude to their supposed power in the control of man's destiny.

THE HATRA ZODIAC

A graffito rendering two deities in the zodiac was found in Hatra, a fortified city flourishing in the early centuries of our era that stood between the Tigris and Euphrates Rivers. The drawings were on the wall of a building excavated in 1951, and portrayed, among other things, two beardless deities, one wearing a peaked hat with the lunar crescent, the other with spiked rays emanating from the head (Fig. 57). The drawing does not clearly define the sex of either deity, though the excavation report[4] described them as the sun god and the moon goddess, and others have continued to use the same terms. As the bust on the right is wearing a lunar crescent, one may accept that a lunar deity was intended, though not necessarily a goddess. Sexual ambiguity was common in the portrayal

4 Fuad Safar, "Hatra and the first season of excavations", Sumer VIII, 1952, 11.

of Near Eastern deities in the Graeco-Roman period, and the lunar deity reverenced in Mesopotamia, Iran, Arabia, and more particularly, in Hatra itself, was regarded as male. A small number of Hatrene coins have survived from antiquity and were studied by Walker in 1958.[5] He noted two obverse types that he designated Types A and B. Coins of Type A portray a beardless sun god with flowing locks and rays surrounding his head. The image is accompanied by an inscription in the Aramaic of Hatra that reads חתרא דשמש HTR' DŠMŠ, i.e. the Hatra (precinct) of Šamaš (the sun)[6], the term thus explaining the derivation of the city's name. Type B coins show the profile of a beardless moon god, wearing a crescent diadem on his head. The face is long, delicate and sexually ambiguous, but that a god, not a goddess, was intended is plain from the inscription: סין מרלהא SIN MRLHA, that is, Sin (the moon), Lord of the gods. The carefully rendered profiles of the beardless Sin and Šamaš on the coins are the key to interpreting the sun and moon gods roughly sketched on the wall of the house.

The busts of the two gods are surrounded by a summarily executed zodiac, with some of the signs out of order and others unrecognizable in the published drawing. The sign at the top of the zodiac has been erased and some letters added. The language and script have been disputed,[7] but Fuad Safar's initial suggestion that it is an Aramaic word, DKYR, common in commemorative inscriptions, would tie in well with the explanation of the zodiac to be proposed here. Although the signs are confused and cursorily indicated, the intention seems to have been to place the spring and summer signs in the lower half of the cycle, i.e.

5 J. Walker, "The coins of Hatra", Numismatic Chronicle, XVIII, 1958, 167 ff.

6 The coin inscriptions were first deciphered by A. Caquot, "Nouvelles inscriptions araméennes de Hatra", Syria, 1952, 114.

7 O. Neugebauer, "On the Hatra zodiac", Sumer X, 1954, 91.

below the horizon. Across the base from left to right one seems to recognize Cancer, Taurus (or Aries?), Aries (or Leo?), and Gemini, all summer signs, normally placed at the top of the zodiacal circle. The concept of the zodiac below the horizon being in the "underworld" was mentioned by many ancient authors, and the orientation of this zodiac, which was sometimes used for funerary zodiacs or for underworld deities, suggests a reference to the sun and moon in the underworld, which they may have been thought to visit for part of every twenty-four hours. Our artist's work is rough, but not without some knowledge of his subject, or of drawing, as he has creditably constructed the framework of the zodiac, and successfully managed the proportions of the human and animal figures - a difficult task for an inexperienced draftsman, especially on a vertical surface. One feels that the arrangement of the summer signs across the base was deliberate, suited to a specific train of thought.

Neugebauer's remark that the other drawings on the same wall have nothing to do with the zodiac[8] is perhaps too hasty, as the main elements at least give the impression of being related to a single idea. One section of the drawing shows a large building, with a plain room beneath a columned hall. Within the lower room a male figure is reclining in a posture familiar from many Near Eastern funerary monuments of the period. One wonders if that simple lower room is a tomb, with the man in Parthian dress its recently deceased occupant. In that case the drawing may represent a Hatrene popular eschatology, with the zodiac and the goddess above the arch symbolizing local ideas of what happens to the soul after death.

The room in which the zodiac was found was part of a large complex in Area 2 of the excavation. The room was small, somewhat out of the way,

8 Ibid.

and had only one entrance. Close to the room, commemorative inscriptions were engraved on the limestone jambs of the doorway leading from the vestibule to the courtyard.

"To remember ᶜAja, son of Manᶜnu."

"To remember Nafsha, son of Maᶜnu."

Other rooms in the complex bear similar inscriptions. In this setting the funerary connotations of the zodiac can hardly be doubted. There may even have been an intention to work up the design as a wall painting, as the proportions are well-determined, though the artist may have intended to seek reference for the signs. Evidently, however, the work was taken no further. Hatra was captured by Šapur I in A.D. 241, and the town was not re-inhabited afterwards, so the sketch will reflect ideas current prior to A.D. 241. The drawing may be an important document, and deserves to be investigated more fully in relation to Hatrene funerary and religious art and inscriptions, as well as in relation to the architectural remains, a task beyond the scope of this thesis.

THE SUN

Representations of the sun god in the zodiac are remarkably few, considering the large number of pious inscriptions with dedications to Helios or Sol. A mosaic from Germany, an incense burner from the Black Sea, and a baetyl from Beirut are apparently all that remain.

THE BINGEN ZODIAC

A mosaic portraying Sol in his solar chariot surrounded by the zodiac was found to the south of Bingen, near Koblenz, and is believed to date to the second century A.D. Sol in a billowing cape, his head surrounded by a nimbus and rayed crown, drives four powerful horses. The viewer has the sensation of being directly in the path of the on-rushing chariot, as the solar animals leap over the eastern horizon (Fig. 58).

The quadriga was a characteristic attribute of Sol, while the moon's chariot was traditionally a biga, drawn by two beasts, sometimes horses, sometimes oxen.

The surrounding zodiac is somewhat damaged. The summer signs, in which Sol is at his most powerful, are placed in the top half, with the equinoxes to right and left, perhaps intended to signify the horizon above which Sol's chariot is rising. Cancer, Leo and Sagittarius have been destroyed, and there are some peculiarities among the other signs. In Libra's position there is a nude figure holding an amphora and vegetation, and in the position of Aquarius a naked male holds a branch and has a branch growing from his head. Such ideosyncrasies are seldom accidental, but suggest a zodiac constructed to illustrate religious doctrines, rather than conventional astrological theories.

Half of Capricorn's body has disappeared, but the angle of the trunk indicates a fish-tail rather than legs. He holds a globe between his front hoofs, an image that is found on Roman funerary monuments, as well as on gems and coins, but was not often used for the sign in a complete zodiac. The corners around the zodiac are filled with paired fish and vases, a motif that suggests the Dea Syria.

In relation to the Bingen mosaic, two other mosaics with cosmological themes from Roman Europe warrant a mention. One is a zodiac fragment of which only Pisces and Taurus remain, found at Avenches,[9] and now in the Bern Stadtbibliothek. The other is a superb representation of the planetary deities, but without a zodiac, still in situ on a farm three kilometres to the north of Orbe,[10] in Switzerland. Cosmological theories were clearly of interest in Roman Europe, even as they were in the east.

9 Lafaye et Blancet, Inventaire des mosaiques de la Gaule, I, no. 1393.

10 M.W. Deonna, L'Art Romain en Suisse, 1943, pls. 51-54.
Victorine von Gozenbach, Die römischen mosaiken von Orbe, 1974.

The Bingen Sol is conceptually related to the solar deity on a mosaic floor in the Palestinian synagogue at Hammath-Tiberius (p. below), though the surrounding zodiacs reflect different traditions. The Hammath-Tiberius mosaic was constructed some two hundred years later than the Bingen mosaic, and is the earliest of a series of zodiac mosaics belonging stylistically to a later period. These will be examined in Ch. 15.

INCENSE SPOON, OLBIA

A bronze object described as a "brûleparfums"[11] actually in the form of a spoon which could perhaps have been used for placing incense on an altar, was found at Olbia and is now in the Odessa Museum. The bust of a youthful male deity encircled by the signs of the zodiac is portrayed on the bowl. The god is thought to be Sol or Helios, but might equally be an astral deity, as a six-pointed star is behind the head. The zodiac around the edge has no dividing lines between the signs, which suggests that it should not be dated later than the first century A.D. (Pl. 124). The signs run in a clockwise direction with Aries to the top and Libra near the handle, a suitable arrangement for a solar deity whose Exaltation is in Aries. Those signs depicting human figures (Gemini, Virgo, Libra, Aquarius) have been shown as though they are swimming or floating, the bodies stretched out in a curve, supported in buoyant air or water. We have met this interpretation once before. The Alexandrian zodiac coins portray a swimming Aquarius and a floating Libra (p. 166), but the other human figures stand in the normal way. Floating figures occur again on zodiacs from Perge (p. 311) and France (p. 360), and the image is known in medieval and Renaissance copies of antique manuscripts. The notion of the constellations floating across the sky is poetic, and is perhaps an innovation originating in Asia Minor. The

11 E. Belin de Ballu, Olbia, cité antique du littoral nord de la mer noire.

zodiacs from Olbia and Perge seem to be earlier than the example in France, and the image was applied more consistently than on the Alexandrian coins, where Egyptian die cutters experimented with floating figures for only two of the signs, though the pose was better adapted than a standing figure for the rounded shape of a coin.

The incense spoon was presumably used for cult purposes, though not necessarily the cult of the deity pictured at the centre, as a solar or astral deity might simply be an allusion to the celestial fires, related symbolically to the fire consuming the incense.

THE BAETYL

The veneration of sacred stones, usually meteorites, which having descended from the heavens were regarded as fragments of the divine spheres and therefore endowed with a soul, was well known in Greece and the Near East. A relic of this ancient cult, reported from Beirut by Seyrig in 1963,[12] is of interest to our study because it was decorated with the zodiac. The item is presumably the portrayal of a baetyl rather than a sacred stone itself, as the shrine and image were carved from a single block of limestone. It shows a conical baetyl standing on a rectangular base. Four columns, now broken but once perhaps supporting a dome, rise from the base to isolate the sacred image from its surroundings. The face of the sacred stone was carved in low relief with the image of a semi-draped male deity with a radiate head and right hand raised in a gesture of benediction. A star stands at his left shoulder and he is surrounded by an oval zodiac running anticlockwise, beginning with Aries and Taurus at the top (Pl. 103). Outside the zodiac are the profile busts of the four winds, and the back of the stone is

12 H. Seyrig, "Une idole betylique", Syria XL, 1963, 17-19.

carved to look as though it is draped with a fabric. Seyrig noted that the baetyl did not represent the stone of Emesa, as that had an eagle carved on the back.

The sun, zodiac and winds present a cosmic tableau appropriate to an object that had descended from the sacred spheres. Seyrig suggested that the model may represent the baetyl of an important shrine which stood on a hill overlooking the estuary of the Orontes. The deity was known as Zeus Kasios, whose baetyl was always portrayed in a shrine with four columns. The god's importance can be gauged from the fact that the emperors Trajan, Hadrian and Julian all climbed the hill to offer sacrifice to him.

The mosaic from Bingen, the incense spoon, and the baetyl, are the only representations of the solar deity in the zodiac known to have survived from antiquity, apart from the synagogue mosaics to be examined in Ch. 15. The baetyl may represent a sun cult, as meteorites were sometimes thought to come from specific parts of the heavens, or specific celestial deities. The fish and vases on the Bingen mosaic suggests the Dea Syria, and if this is so, the sun, like the zodiac in the mosaic, is probably to be regarded merely as a symbol of cosmic order. The image on the incense spoon might be the sun or an astral deity, but the spoon could have been used in any cult, as the symbolism need only refer to the celestial fires.

The scarcity of works portraying the sun god in the zodiac suggests two possibilities: either a) that zodiacs relating specifically to sun cults have been lost (except in the case of Mithras and Sarapis); or b) that the zodiac, apparently a "natural" attribute for a sun god, was seldom used as such. Either of these possibilities would be interesting, especially as we shall find the moon goddess with the zodiac on statues that are clearly cult icons.

THE MOON

Graeco-Roman mythology personified the moon as a goddess, and invoked her under names such as Luna, Phoebe, Diana, Selene and Artemis. The differences between these goddesses need not concern us, as the provenance of the works to be considered suggests they should all be regarded as either Artemis or Selene. Most of the examples refer to Artemis of Ephesus, and were found in her native city or elsewhere in the Graeco-Roman world. Three other works portraying a moon goddess without multiple breasts were found in Greece, Asia Minor and Palestine.

ARTEMIS OF EPHESUS

Statues of the Ephesian Artemis from the Roman period often included signs of the zodiac among the rich variety of their symbolism. The immediate impression conveyed by the statues is of a goddess who presided over birth and death, her multiple breasts implying nourishment for the new-born, and her tightly encased legs suggesting the immobility of death. The zodiac, believed to be an instrument of destiny in which the moon joined with the sun and planets to shape and determine the course of human life, was a fitting attribute for the goddess, especially as the zodiac lay on the moon's path through the heavens, and together they marked the passing months.

Ancient thought credited the moon with exercising control over three aspects of human life: birth, death, and the maintenance of the physical body during life. A concern for fertility and the nourishment of infants is plainly indicated on the statues of Artemis of Ephesus, and it was customary for women to invoke the moon goddess for aid during childbirth. Porphyry (De. ant. Nymph. 29) says that souls descending to birth in the world come via the moon, and Plutarch (De. fac. in orb. lun. 943A) recorded a theory concerning human genesis in which the moon was said to furnish the soul, as distinct from the mind, which was a higher faculty

that came through the sun. The soul and mind were united on the moon and from there descended to earth where they were provided with a body. Porphyry was less explicit, saying simply that the moon presided over genesis, and alluding to the symbolism of the bee, a creature often portrayed on statues of Artemis of Ephesus.[13] According to Porphyry (De ant. Nymph. 18) the moon was sometimes called the Bee, and referring to honey, he likened it to genesis because it was sweet, but noted that honey was also used as a preservative, and as a symbol of death. Porphyry's allusion to the bee is of interest in two respects: first, it reiterates the link between the Ephesian goddess and the moon;[14] and secondly, the symbolism applied to honey, the product of the bee, again suggests the moon's triple function of concern with birth, death, and the preservation of the body during life.

Firmicus Maternus was another of the authors who noted the moon's power over earthly life. He mentioned her in connection with birth and death, but dwelt especially on her power over the living body:

> 'We must know how the moon undertakes the care of the human body and what has been allotted to the power of the moon. For we feel in our bodies the increase of the waxing moon and the losses of her waning. The innermost parts of the human grows when the moon grows, and when she begins to lose light they languish, fatigued in body; when she grows again, their power of growth comes flooding back.
>
> 'The whole essence of the earthly body is governed by the power of the moon. Since she is located in the lower regions of the heavens, because of her nearness she has been allotted power over the earth and all the bodies animated by the breath of the Divine Mind. She maintains her course with infinite variety and runs with speed through all the signs, joining herself to all the planets. From different elements she builds up the human body, once conceived, and dissolves it again into its elements.' (Mathes. IV, i, 5-6)

13 H. Thiersch, Artemis Ephesia, nos. 2, 10, 12, 16, 17, 19, 20, 21, 23, etc.

14 Strabo, XIV, 641C, also describes bee symbolism in the cult of Artemis of Ephesus.

The moon's influence on the formation and growth of physical bodies applied not only to human beings,[15] but to animals and vegetation as well. Ancient manuals advocated attending to certain agricultural tasks according to the moon's cycle, the waxing moon being preferred for most sowing, and the full or waning moon for most harvesting.[16] The moon's function in relation to death and the ascent of souls will concern us presently (pp. 309-10).

Twenty-four statues of Artemis of Ephesus have signs of the zodiac as part of the symbolism. They were placed on the chest, portrayed directly on the body, either just over or just under the floral garland that she wore about her neck (Pls. 104, 105, 108). Only one example portrayed all twelve signs. Most often one, three, five, or six signs were shown, using what seems to be an established formula, as when, for instance, six signs were shown, it was the same six signs, when three were shown, it was the same three signs. We shall consider the statues of Artemis in groups, according to the number of signs they display.

ONE SIGN

Where only one zodiacal sign was represented the choice was for Cancer, presumably because it was the astrological House of the moon and the sign through which souls began the descent to genesis. In this process the moon was concerned with the last vital part, the formation and growth of the body, and astrologically the moon was said to rule the

15 W.H. Stahl, translation of Macrobius, Commentary on the Dream of Scipio, note on I, xii, 14, compiled the following list of references to the moon's effect on the human body: Aristotle, Part. Animal. IV, 5; Horace, Satir, II, iv, 30; ps. -Iamblichus, 60; Gellius, XX, viii; Cicero, De div. II, 33; De nat. deor. II, 50; Pliny, NH, II, 220-1.

16 See for instance, Columella, De re rustica, II, x, 15; XI, ii, 11; XII, lv. 1.
For a resumé of the comments concerning the moon's effect on agriculture by Latin authors see Sophie Lunais, Recherches sur la lune, I, 1979, 49-68.

first four years of infancy (Ptolemy, Tetrabib. IV, 10, 204). On these statues the astral Crab was positioned at the centre of the chest, just above the breasts. Iconographically, it suggested that Artemis was the moon goddess, and acknowledged her guardianship of the newly-born. The sign Cancer was used alone on eleven statues.

THREE SIGNS

There are two statues with three signs, one in Wilton House, London, and one in the Vatican magazine, Rome. In both cases the signs chosen were Aries, Cancer and Scorpio. Aries and Scorpio may have stood for the seasons spring and autumn, and Cancer would serve the double purpose of representing summer and the moon's House. The sign Scorpio was often used to signify the idea "autumn", though it is not the month of the equinox. Scorpio is mid-autumn, and as such is normally placed opposite Taurus, mid-spring, rather than Aries, which denotes the beginning of spring.

FOUR SIGNS

A marble statue in the Palazzo dei Conservatori, Rome (Sala dei Trionfi, no. 6) has four signs. The seasons appear as four maidens on the chest of the goddess, in the space above the garland. Behind them can be seen four signs of the zodiac, Sagittarius and Cancer to the left, Virgo and Leo to the right. Cancer probably represents the moon's House, but on what grounds the others were chosen is not immediately apparent.

FIVE SIGNS

Four statues have five signs: one in Naples (Museo Nazionale, no. 665) (Fig. 60); one in the Vatican, Rome (Galleria dei Candelabri II, 22); another in the Villa Albani, Rome (Canopo, no. 700); and the last

is in Tuscany (Palazzo Vescovili). Each has the same five signs: Aries, Taurus, Gemini, Cancer, Leo. These are the signs of spring and summer, the period of generation and growth, especially in agriculture, over which the moon was thought to exercise a profound influence. Traditionally, farmers were advised to take the phases of the moon into consideration, and sometimes its position in the zodiac as well, when they were planning their farming routine. An example is the advice attributed by Pliny to "Zoroaster" (above, p. 78), that farmers should sow grain when the sun had passed the twelfth degree of Scorpio and the moon was in Taurus. It is worth pausing to observe that the manuals of agricultural advice, so well-known in the Roman world, were part of a very old tradition, reaching back through Hesiod to Sumerian texts.

Four of the five signs had an astrological significance that may have been relevant. Cancer is the moon's House and Taurus the moon's Exaltation, while Leo is the sun's House, and Aries the sun's Exaltation. Apollo, equated with the sun, was the brother of Artemis, and it is possible that the signs were chosen to suggest that sun and moon, alternately ruling day and night, had complementary powers, astrologically and physically, over living things.

SIX SIGNS

Two images of Artemis portray six signs, one found on Kos, and now in the Antiquarium, the other in private ownership in Munich. The signs of late spring, summer and early autumn have been chosen. Both begin with Taurus, the moon's Exaltation, and follow with Gemini, Cancer, Leo, Virgo, but the sixth sign differs. The example from Kos has Libra, while the Artemis in Munich has Scorpio. This latter statue is different in several respects from the majority of Artemis images, and has been compared stylistically to Pergamene sculpture.[17] It is less

17 H. Thiersch, Artemis Ephesia, 1935, no. 11, pp. 13-17.

cluttered with symbols than most Artemis images and although the breasts have already multiplied[18] there is no flower garland, so the zodiacal signs lie on a horizontal band immediately above the breasts. If the work is Hellenistic, we have another early example of the Claws of Scorpio substituting for the Balance. The Claws continued in intermittant use among writers and artists even in the Roman period,[19] but the usage is certainly compatible with an early date, and combined with other unusual features of the image, and the lack of many details common in later times, could suggest an earlier stage of the iconography. The two images of Artemis with the six signs then, in fact, portray the same six signs, though on one the month of the autumn equinox is expressed as a Balance, and on the other as the Claws of Scorpio.

Artemis had been worshipped in Ephesus over many centuries, but presumably the zodiac had not always been a part of her iconography. The Munich Artemis (Fig. 59) seems to be the earliest example with the signs, its iconography suggesting a date prior to the Roman empire for the introduction of the signs onto cult statues.

SEVEN SIGNS

A statue found in Ephesus in 1956 has seven signs, beginning with Leo and running through Virgo, Libra, Scorpio, Sagittarius, Capricorn and Aquarius. These are the signs of late summer, autumn and most of winter. Spring and early summer, the period of new life and growth, have been omitted in favour of the seasons of fullness, harvest and decline. The moon was thought to govern the end of life, even as it was thought to

18 Images of the goddess on coins show that the breasts had multiplied by 159-133 B.C., see B.V. Head, BMC, Ionia, p. 63, no. 144.

19 Roman writers adopted the term Libra almost exclusively, but Greek writers, such as Ptolemy, continued to use both terms. Compare Tetrabiblos I, 9, 24 and IV, 4, 182.

govern the beginning, and with some deities those signs could be used as symbols of the afterlife. We shall defer consideration until all the cycles have been described.

EIGHT SIGNS

The eight consecutive signs from Aries to Scorpio were used on a statue found in Ephesus, and now in the museum at Selcuk (no. 717), the modern village near the ancient site. Only the four winter signs, Sagittarius to Pisces, were omitted.

NINE SIGNS

One Artemis statue, found in Leptis Magna and now in the Tripoli Museum, has nine signs, the three excluded being Virgo, Libra and Aquarius. Why these three in particular were left out is puzzling, as they are not consecutive and do not represent one season. The remaining signs are in a disturbed order, as they run, beginning from the left: Scorpio, Capricorn, Aries, Taurus, Gemini, Cancer, Leo, Pisces, Sagittarius (Pl. 105). In a natural order Sagittarius would lie between Scorpio and Capricorn, while Pisces should precede Aries. I am of the opinion that disturbances in the order or character of the signs were deliberate, made with specific purpose. The nine signs may have been intended to represent two (or more) groupings, each with its specific meaning and each in its proper order. For instance, beginning from the left, the first seven signs, Scorpio to Leo, are in correct order though some have been omitted. The last two signs, Pisces and Sagittarius, may have been considered quite separate, perhaps referring to different circumstances.

TWELVE SIGNS

Just one Artemis statue, now in the Selcuk Museum (no. 718) at Ephesus, has been found with a complete zodiac (Pl. 108). Statues of

Artemis were meant to be seen primarily from the front, so the zodiac begins and ends on the shoulders, broken at the point of the spring equinox, with the signs from Aries to Pisces hanging in a loop about the top of the body. The signs were portrayed in the conventional manner and made as large as possible in the available space. The only oddity is that Aquarius was shown upside-down, in order to have his head pointing correctly in the direction of daily rotation.

The preceding study has shown that a correlation exists between the number of signs and the choice of signs, suggesting that a method was observed in selecting which signs to portray. The question of what the signs signify is difficult, and needs to be approached with some caution. Broadly speaking, there are three possibilities:

a) that the signs concern the goddess herself, referring to her mythology or functions. Our examination of other cults has shown that a well-established symbolism equated certain parts of the zodiac with the opposing ideas of "life" and "death", and further evidence, examined in Ch. 13, will indicate that the ideas were generally known. The moon, as the earth's nearest neighbour among the celestial bodies, was thought to have an important function in the ascent and descent of souls, and also in the growth and maintenance of the physical body during life. It is possible that the signs on the statues of the goddess, which most often show Cancer, the moon's House, and the spring and summer signs of life and generation, may refer to her influence in birth and the preservation of life. The occasional aberrant cycle may recognize particular festivals(?) or her functions in relation to death.

b) that the signs refer to the physical environment of her devotees. The importance of the moon in agriculture has already been stressed, and it is possible that the signs on her body represent critical months in the agricultural cycle of a specific community, placed under the care of its goddess. Consulting Columella (De re rustica) concerning the

Mediterranean and Aegean regions in the first century A.D., we find, for instance, that with Leo comes the corn harvest (XI, ii, 54), and the beginning of the period for drying figs and raisins (XI, ii, 62); Virgo and Libra see the vintage (XI, ii, 67) and the gathering of honey (IX, xiv, 10); Scorpio, Sagittarius and Capricorn preside over the harvest of olives (XI, ii, 95). Some communities might have been interested in non-agricultural products, such as the harvest from the sea.

c) The third possibility is that a) and b) might both apply.

To check the validity of these suggestions would require an investigation of the socio-economic environment of cult centres, as well as cult theology, a task impossible in the present context. It is fair to say, however, that for the signs to be shown on the body of the goddess indicates that they were given considerable importance. We may be reasonably certain that astrology and astral theology had a place in the cult, and that the priests would be well-versed in such matters. Consequently, we may also be certain that the signs on the cult statues were not selected haphazardly, but that each group had a specific meaning within its cult or community, even if the interpretation is now obscure. I personally incline to the view that in all probability the signs of economically important months were used symbolically to commit the natural products of the environment to the protection of the goddess, especially as the seasons are usually found in close proximity. This would seem a more reasonable explanation for the differences in the cycle than that there were shifts in priestly emphasis on the nature of the goddess herself.

Finally, it is worth observing that Artemis of Ephesus alone shares with the Mithraic lion-headed deity the distinction of having the signs and the seasons portrayed directly on her body. These two attributes suggest that by the Roman empire Artemis, too, had been numbered among the deities regarded as aspects of universal Time. Certain philosophical

works speak of all the celestial spheres down to the sphere of the moon as part of the one great divinity, who has many aspects. The moon could be assimilated into the Aion theology on this basis, and more readily still by her conceived function in the ascent and descent of souls. Porphyry (De ant. nymph. 18) discussed Mithras and the moon in consecutive sentences, implying a single train of thought. He linked Mithras with furthering creation, and the moon with the continuing process of human genesis.

ARTEMIS OF PERGE

Artemis had another important temple that was a place of pilgrimage at Perge, and there she apparently did not take the many-breasted form known in Ephesus. A circular relief portraying the goddess with the crescent moon behind her shoulders was found just outside Perge at Iyilik Belen, probably the site of her ancient temple. The bust of Artemis is surrounded by small narrative scenes in relief, badly damaged, but recognized by Onurkan[20] as the story of Niobe and her children. Encircling the whole are the twelve signs of the zodiac, with Libra oriented to the top, above the head of the goddess (Pl. 106).

On this relief Artemis has been portrayed as a goddess of death, and possibly, of judgement. Not only is the idea presented in the story of the dying Niobids, but the message was re-inforced by orienting Libra to the top of the relief. This sign, as we have seen, was the first sign of the southern half of the zodiac, the entrance to the lower hemisphere, and therefore the symbolic entrance to the hereafter. Under normal circumstances one would expect to find Taurus, the moon's Exaltation, or Cancer, the moon's House, placed above the head of the goddess, but

20 S. Onurkan, "Perge Artemis kabartmalari ve Artemis Pergaia", Belleten, XXXIII, 1969, 312 ff.

here they have been rejected in favour of Libra and Scorpio, neither sign specifically related to the moon goddess, but Libra signifying the entrance to the next life, and Scorpio known as a symbol of retribution, especially in relation to Artemis, who was said to have sent the giant astral Scorpion to kill Orion (Aratus, Phaenom. 635-649).

Several ancient authors refer to the moon in relation to death. Being the earth's nearest celestial neighbour, it was said in philosophical circles to be the last stage in the descent of souls proceeding to birth, and the first stage in the soul's re-ascent to the stars after death. Myths such as the ones recounted by Plutarch (De fac. in orb. lun. 943C-944D) and Silius Italicus (Punica XIII, 556-61) imply a process of judgement, few souls being allowed to attain immediate entry to the moon. On a more mundane level, the moon was thought to preserve the body during life and ensure its disintegration after death (Pliny NH, II, 223). She was also thought to be concerned with the actual process of death. Pliny (NH, II, 220), for instance, after noting that the tides were governed by the moon, went on to mention that it had been noticed in coastal areas that deaths always occur with the ebbing tide. Manilius (Astronom. II, 913-5) says more obliquely that the moon reflects human mortality on the dying edges of her face.

The myth of Niobe's children, who were shot down in youthful health and strength by Apollo and Artemis in retribution for their mother's boast, suggests a concern with sudden death visited on the living, and this agrees with the orientation of the zodiac, with Libra placed at the top. Niobe's children provided a popular theme in painting and sculpture from the classical period onwards, and appeared in the decoration of late Roman sarcophagi.[21] A relief of Artemis with the children of Niobe in the

21 R.M. Cook, Niobe and her children, 1964, gives a catalogue of paintings and sculptures, including the sarcophagi, depicting the theme. The example from Perge was not known at that time.

British Museum[22] is an interesting parallel to the Perge relief. The destruction of the Niobids was again designed on a circular plaque, though without the zodiac. The disc shape of these reliefs may be a reference to the full moon, while the zodiac on the Perge example perhaps also suggests the idea of destiny.

The relief is badly damaged, but Aquarius is the only sign that has been lost entirely. Each sign is separated from the next by a line, and the remaining human figures (Gemini and Libra) are floating as though borne effortlessly through the air. This iconographic trait has already been noticed in the Olbian incense spoon (above, p. 297). The four-footed animals, Aries, Taurus, Leo and Sagittarius, are not floating, but gallop forward in the usual way. An unusual feature of this relief is that the signs are all to be "read" from the external edge of the circle, that is, the outer edge forms the base line for the images, so that signs such as Sagittarius and Capricorn seem to be upside down in relation to the goddess and other figures at the centre. This situation is most commonly found in zodiacs designed as floor mosaics (see Pl. 121 and Fig. 64) where the viewer may stroll around the design to view it from all sides.

THE ARGOS SELENE

A relief of the moon goddess, now in the British Museum[23] was found in Argos. Her wavy hair, parted in the middle, is surmounted by the lunar crescent worn like the horns of a bull, and around her head are seven large stars. The bust is contained in a shallow niche under a semi-circular arch, reminiscent of a small shrine or funerary monument.

22 BM Catalogue of sculpture, III, no. 2200, pl. XXVI.

23 BM Catalogue of sculpture, III, no. 2162.

Around the edge of the niche are the twelve signs, with Aries and Taurus placed at the top (Pl. 107).

There has been some debate concerning the identity of the goddess. She is referred to as "Selene" in the British Museum catalogue, but a Gnostic inscription on the back of the relief led Delatte[24] in 1913 to suggest that she may be the Gnostic Virgin of Light, who is also a moon goddess. Subsequently, Cumont[25] expressed the opinion that the inscription may have been added later, but introduced a third possibility: that the relief could be a funerary monument in which the dead woman was assimilated to the moon. The general shape of the relief does have funerary allusions that were probably intentional, but we shall see that the iconography suggests a moon goddess, not a human soul.

The zodiac is oriented to give prominence to Taurus, the moon's Exaltation, at the top, and Cancer, the moon's House, to the right of the deity's head. In the field around the goddess are seven stars, their importance stressed by making them an enormous size, so that together they fill the entire background. Because there are seven, they have been presumed to represent the five planets plus the sun and moon, but the interpretation is problematic. For one thing the stars are uniform in size, and there is no indication that one should be regarded as the sun. Secondly, the moon is already shown in the form of a crescent, and need hardly be represented a second time as a star. I propose instead that the relief portrays a well-known constellation of seven stars: the Pleiades. Traditionally, ancient descriptions insist that the Pleiades are a cluster of seven stars, even though only six are readily visible to the eye. Aratus (Phaenom. 254-267) even identifies the stars by

24 A. Delatte, "Études sur la magie Grecque. 2. Un bas-relief gnostique", Musée Belge, 1913, 321-337.

25 F. Cumont, Recherches sur le symbolisme funéraire des Romaines, 1942, 242.

their names: Halcyone, Merope, Celaeno, Electra, Sterope, Taygete and Maia. The arrangement of the stars on the relief into two rows of three with one star at the end, e.g. * * * / * * * * does, in fact, correspond to the constellation, and is the same arrangement that we found for the Pleiades on Babylonian monuments (Pls. 10, 52 and Figs 1, 18).

The significance of the Pleiades in the context of the Argos relief is that they are the most characteristic star-group in the constellation Taurus, and therefore indicate by surrounding the goddess that she is in her Exaltation. To reinforce the idea, the lunar crescent has been elongated into Taurean horns, which the goddess wears on her head. We can thus be confident that the relief represents a moon goddess, not a human soul, as the iconography of Exaltation would only be applicable to the goddess. An investigation of which moon goddess would take us too far afield, and must be postponed for another occasion.

Two further monuments must be mentioned. One is a fragment of a circular relief comparable to the two previous examples which was found in excavations at Phillipi. It was reported to have been mentioned by Miss Anna Tsitouridou at a conference in Greece, but to the writer's knowledge has not yet been published. The signs of the zodiac, of which only Taurus and Gemini remain, apparently enclosed the bust of a goddess with the lunar crescent behind her head.

The second work is a coin, minted in Akko-Ptolemais during the reign of Elagabalus, in c. A.D. 165. On these coins Artemis was shown as a huntress, standing in a distyle temple and surrounded by the zodiac. The same reverse type was re-used in the reign of Valerianus in c. A.D. 235, but I know of no published photos.

* * *

Counting the twenty-four images of Artemis of Ephesus, there are twenty-eight extant works showing a moon goddess with the signs of the zodiac. This exceeds the number of zodiacs shown with any deities other than Mithras and Aion, and indicates an important theological place for the zodiac in lunar cults. Lest it be assumed that this situation can be attributed to nature alone, for anyone can observe the moon in the zodiac, it is worth pointing out that a comparable situation does not necessarily exist in the cults of other celestial deities. For instance, representations of Venus or Mercury with the zodiac are rare, and we have shown earlier in this chapter that, apart from Mithras and Sarapis, representations of the sun in the zodiac cannot readily be traced to a solar cult.

The groups of signs on statues of Artemis of Ephesus remain an unsolved problem, but two other reliefs of the moon goddess in the zodiac provide additional examples of concepts already encountered. The Artemis of Perge is an instance of the significance of the zodiac's orientation, and relates to the ivory diptych showing an imperial apotheosis (p. 189). For the emperor's ascent on the diptych (Pl. 68), and the death of the Niobids (Pl.106) on the Perge relief, the sign Libra, symbolic entrance to the next world, was given special significance, being placed at the head of the cycle in both cases.

The Argos relief is an example of the doctrine of planetary Exaltations, and may be compared to the painting in the Barbarini Mithraeum (p.228). There, Saturn was portrayed on his Exaltation in Libra, while the Argos relief portrays the moon on her Exaltation in Taurus (compare Pl.81 and Pl.107). Thus, the same astrological concepts were given visual expression in more than one setting, intimating that they were used and understood in a reasonably wide context, and perhaps generally understood.

Chapter twelve THE ZODIAC IN THE NEAR EAST

INTRODUCTION

A number of zodiacs preserved in cities of the Near East have already come to our attention, most from the Greek cities of Asia Minor or the Roman cities of North Africa. We turn now to two other Near Eastern states, the Nabateans and the Palmyrenes, both of whom achieved a brief ascendancy in the period towards the beginning of our era. Considerable wealth was amassed in each case through trade, and although the influence of the prevailing Hellenistic civilization was undoubtedly present, impulses from Near Eastern sources were strong, and in some fields, dominant. Our study of Palmyrene zodiacs will suggest a prime influence from Babylon, while one Nabatean example seems to indicate an insistance on local tradition.

BĒL OF PALMYRA

Two zodiacs, both originally on ceilings, have been found at Palmyra. One is complete and still in its original position on the ceiling of a deep recess in the northern end of the cella of the Temple of Bēl. The other has survived only as a fragment, re-used in the construction of a palatial building during the time of Diocletian, but perhaps initially from a tomb.

Bēl of Palmyra, as his name suggests, seems to have been identified with the Babylonian Bēl-Marduk, or in zodiacal terms, the planet Jupiter. Babylonian influence is well attested in Palmyrene inscriptions and apparently dates at least to the third century B.C., when the first reported evidence occurs of the element -bēl used as a component of Palmyrene personal names.[1] The earliest known example is the name of the chieftan Zabdibēl, who fought with the army of Antiochus III at the Battle of Raphia. Towards the beginning of the first century A.D. a magnificent new temple

1 J.Teixidor, The pantheon of Palmyra, 1979, 1.

was constructed for Bēl in Palmyra. By this period the city was wealthy, and could afford to honour its principal deity on a lavish scale, so the temple was built throughout in hard limestone and richly decorated. A dedication inscription establishes that it was consecrated on 6 Nisan, A.D. 32. [2] The choice of 6 Nisan for the ceremony of consecration is significant, and clear evidence that the Palmyrene priests equated their deity with the Babylonian Bēl-Marduk, as that was the date of Marduk's principal Babylonian festival at New Year. The continuing importance of 6 Nisan in a Palmyrene context is evident from the fact that it occurs repeatedly in inscriptions,[3] and on one occasion was called "the good day".[4]

The temple, set in an immense court, had a rectangular cella raised on a podium, with the entrance on the long side to the west. The two short sides to the north and south were each equipped with a deep recess, or thalamos. The zodiac is portrayed on the ceiling of the north thalamos, which gives every indication of being the original ceiling, thus dating the zodiac not later than A.D. 32.

The entrance to the north thalamos is surmounted by a lintel, carved in relief with symbols that are also presumed to be cosmological. It portrays a great eagle with outspread wings, perhaps representing the sky, or perhaps as the emblem of Bēl himself, for in the Greek half of bilingual inscriptions the name Bēl was translated "Zeus", whose association with the eagle is well known. Beneath the eagle is a snake-like form, along which six globes are gathered. The globes are thought, rightly I believe, to represent the planets [5] and the snake is usually said to represent the sun.

2 J.Cantineau, Inventaire des inscriptions de Palmyre, IX, 1933, no.1

3 H.J.W.Drijvers, "Afterlife and funerary symbolism in Palmyrene religion", La soteriologia dei culti orientali nell'Impero Romano, 1982, 725.

4 J.Cantineau, op. cit. VI, 13.

5 H.Seyrig, "Nouveaux monuments palmyréniens des cultes de Bel et de Baalshamin", Syria, XIV, 1933, 255.

Logically, however, it represents not the sun, but the path of the sun,[6] that is, the ecliptic, which is also the path of the moon and planets, shown here clustering along it. The moon and Venus, earth's nearest neighbours, are no doubt towards the right end, with Saturn, the most remote of the planets, at the far end (Fig. 66).

THE ZODIAC CEILING, TEMPLE OF BĒL

Inside the north thalamos the ceiling is decorated with a geometric grid interspersed with rosettes. In the centre is the zodiac circle, enclosed in a square supported at the four corners by eagles. Within the zodiac the field is divided into seven hexagons, each containing the bust of a planetary deity, most with recognizable attributes. Mars is cuirassed and carries a spear and shield, while a large crescent accompanies the moon. continuing in a clockwise direction, a veiled bust of Venus is next, then Saturn holding a reaping hook. In the next hexagon a fragment of a caduceus indicates that the bust represents Mercury, then next a rayed nimbus announces the sun. On a larger scale in the centre hexagon is an imposing figure without visible attributes, presumably representing the master of the temple, Bēl as the planet Jupiter and chief of the planetary heptad (Fig. 65).

The planet busts are stained, damaged and difficult to distinguish,[7] and perhaps for this reason the moon has been interpreted as a female figure. In Babylonian religion the moon was masculine, as it was for the Arabs. Other Palmyrene representations of a deity with a lunar crescent depict a male, often in military costume, leaving the bust in the Bēl temple zodiac as the only apparent exception. Most Palmyrene deities are beardless (the exceptions are Baʿalšamin, Šadrafa, and the deity portrayed as Hercules), and sexual differences are not usually clearly marked in the

6 As Colledge noted, Art of Palmyra, 38.

7 For a photo of the ceiling in its present condition, see ibid.

carved faces, so clothing plays a major rôle in distinguishing the sex. Under the circumstances, it is perhaps merely damage to the relief that has caused the moon to be thought feminine. Colledge [8] has suggested that the ceiling was the work of Greek craftsmen, and that for some reason the temple priests were in imperfect control, perhaps because finance was coming from an outside source. Certainly men with Greek names are known to have been employed on the temple, [9] though it would be remarkable for the temple priests not to have had control over such an important detail. A feminine moon in Bēl's temple is out of place, and was surely not part of the original concept.

Individual zodiacal signs on the monument are difficult to distinguish, but two points are clear enough for comment. First, the signs are not divided into compartments, but flow continuously around the circle. Secondly, the iconography of Libra and Scorpio present yet another solution to the Hellenistic problem of showing that the Balance Pans of Libra are really the Claws of Scorpio (above, p. 134ff). The male figure carrying the Balance has been enclosed between the Scorpion's Claws, so that the two are separate, yet clearly linked. The lack of divisions between the signs and the insistance on the identification of Libra with the Claws of Scorpio accord well with the early date of this monument, and link it more closely with earlier Hellenistic examples than with later Roman pieces. The monument's secure dating and provenance render it particularly valuable as a guide to the study of less secure monuments.

The hexagons enclosing the planetary busts probably allude both to number theory, in which six was a "perfect" number, [10] and to astrology,

8 Colledge, ibid., 237-8.

9 Ibid. 23.

10 Macrobius, Commentary on the Dream of Scipio, I, vi, 12.

where the hexagon was a propitious figure demonstrating the affinities of alternating signs. The probability of such allusions has already been examined in relation to the zodiac mosaic from Bir Chana (above, p. 286) which is somewhat later in time than the Bēl zodiac, and gives first honours to Saturn rather than to Bēl-Jupiter.

The zodiac ceiling stresses Bēl's sovereign status as the planet Jupiter in the celestial hierarchy. The other planetary deities must also have been identified with members of the Palmyrene pantheon, though the matter cannot be further investigated here. Astral religion must have given fundamental importance to observing the heavens, and two inscriptions which mention the "House of observations" [11] in the Temple of Bēl must certainly refer to an observatory. [12] The use of a temple observatory doubtless reflected Babylonian practice, and it seems that the lines of communication between the Temple of Bēl in Palmyra and the cult of Bēl-Marduk in Babylon were kept open, probably through a known colony of Palmyrene merchants resident in Babylon. An inscription in the courtyard of the Palmyrene temple records that a statue was erected in honour of the merchants because of their generosity to the temple during its construction, as well as for other help and gifts.[13] Such direct links would tend to increase the degree of Babylonian influence in the Palmyrene cult.

THE PALMYRENE ZODIAC FRAGMENT

A fragment of a second zodiac ceiling was found in excavations near the

11 Piotr Brykczński, "Astrologia w Palmyrze" (with English summary), Studia Palmyrénskie, VI, 1975, 106.
H.Drijvers, "Afterlife and funerary symbolism in Palmyrene religion", La soteriologia dei culti orientali nell'Impero Romano, 720.
M.Gawlikowski, "Inscriptions de Palmyre", Syria, XLVIII, 1971, 414-5.

12 Gawlikowski (Syria, 1971, 414-5) seems to prefer a military interpretation for the "house of observations", as in a watch tower.

13 J.Cantineau, Inventaire des inscriptions de Palmyre, IX, no. 11.

site of Diocletian's Camp. It was discovered among rubble consisting largely of what seemed to be broken funerary monuments, and the excavators suggested that the zodiac was once part of the ceiling of a tomb or funerary temple,[14] constructed towards the end of the second century A.D. Part of Aries, the whole of Taurus and Gemini, and a part of Cancer was preserved, as well as the head of a wind god filling a corner (Pl. 115). The zodiac once surrounded a relief that probably represented a deity astride a feline monster, whose neck was decorated with a circlet of vine-leaves. A feline monster and vine leaves suggests a Dionysus-type figure, and may perhaps be the Palmyrene god Malakbel, who seems to have been associated with Dionysiac decoration.[15] It is unfortunate that so little remains of both the central relief and the zodiac, but what there is would fit better with the iconography of Malakbel than any other Palmyrene deity.

The lunar crescent is in Taurus and three discs, undoubtedly representing celestial bodies are among the signs: one in Aries, one in Taurus, and one in Cancer. The three discs vary in size and appear to be somewhat different from each other in design, suggesting that each represents a specific planet. Palmyrene people looking at the relief in antiquity could perhaps tell at a glance which planet was intended by each symbol. Even though less than a quarter of the zodiac remains, the monument gives two convincing indications that it is a horoscope: the planets were apparently distinguishable one from another, and two of the celestial bodies were in one sign, Taurus. Were it not for these indications, one might have supposed that the celestial deities were simply in their Exaltations - the sun in Aries, moon in Taurus, and Jupiter (shown on a bigger scale because Bēl was the principal Palmyrene deity) in Cancer. Having a planet as well as the moon in Taurus, however, precludes this explanation.

14 K.Michalowski, Palmyre, Fouilles Polonaises, II, 1960, 113 f.

15 Colledge, Art of Palmyra, pp. 34-5, and 87.

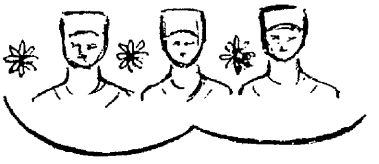
An attempt to retrieve the identity of the three discs shown in the zodiac by comparing them with the various styles of rosette on Palmyrene tesserae was inconclusive for interpreting the relief, but it did tend to confirm that an easily differentiated set of rosette symbols may have been in use to signify the various planetary deities.

THE PALMYRENE TESSERAE

The tesserae are small baked clay tokens, issued to give the holder admittance to temple feasts or similar gatherings.[16] They are usually decorated with images or symbols, and some have inscriptions, thus allowing the possibility of linking a particular icon with a specific deity. Using the corpus of tesserae compiled by Ingholt, Seyrig, Starkey and Caquot[17] I checked the various types of rosette symbols on tesserae with inscriptions mentioning the name of a deity, and found that certain correspondences were suggested:

A simple eight-pointed "daisy" = Bēl-Jupiter.

The equivalence seemed to be well attested, as the name of Bēl occurred with the "daisy" rosette on no less than six examples, e.g. RTP 17, 19, 22, 50, 77, 111. On RTP 700 the "daisy" was shown with an eagle, well-known as a symbol of Zeus-Jupiter, and perhaps associated with Bēl as well. On RTP 17 the inscription mentioned "the priests of Bēl", a phrase which seems to have been re-stated visually by showing three small busts wearing priestly hats interspersed with daisy rosettes, which probably symbolize Bēl as the planet Jupiter.



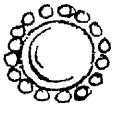
16 Colledge, Art of Palmyra, 54.

17 Ingholt, Seyrig, Starkey and Caquot, Receuil des tessères de Palmyre, cited henceforth as RTP.

 An arrangement of seven (sometimes eight?) dots = Nergal-Mars. Again the link seemed to be well attested. The symbol occurred with the name Nergal (RTP 290) and on RTP 820 the symbol was shown with a seal impression of a lion eating a stag, a motif believed to be associated with Nergal in Mesopotamia. On RTP 821 the seven-dot rosette was shown with a helmeted head (like Mars) and on RTP 761 with a scorpion, the zodiacal House of Mars.

One may suggest the identity of two other rosette-star symbols, but with greater reservation, as they are less well attested.

 A "Tudor rose" = Nebo-Mercury. RTP 293 gives a very clear example of the symbol on a token inscribed with the name Nebo.

 or  = the planet Venus. Venus is the brightest of the planets, and in antiquity was said (Pliny, NH, II, 37) to be the only one capable of casting a shadow, which may account for the large central disc. The symbol occurs with the names "Istarbad", "Allat", and "Belti", RTP 199, 165a, 217.

Palmyrene deities were often shown grouped with each other on reliefs, and among the tesserae more than one type of rosette may occur on one token. The most common combinations are Bēl-Jupiter's daisy with the seven dots of Nergal-Mars, or the daisy with the Venus symbol. RTP 17, 763, 165, 361.

The tesserae were found in considerable numbers and among the images on them it is possible to recognize all the zodiacal signs except Capricorn and Aquarius. The following list is a selection only, of tesserae which are almost certainly zodiacal, taking the presence of additional symbols, such as stars, to indicate the astral status of common images.

ARIES

1 Crouching Ram, star above; below, a rosette made of seven dots. Aries is one of the astrological Houses of Mars, hence the juxtaposition of the Ram with Nergal's symbol. RTP 616.

2 Ram galloping, looking behind. This is a common image of Aries in ancient zodiacs. RTP 615.

TAURUS

3 Bull leaping, star between legs; above, bust with star and crescent. RTP 170.

4 Bull crouching; above, star in a crescent. RTP 471.

GEMINI

5 Apollo and Hercules with lyre and club. A very common form of the Gemini. RTP 168.

CANCER

6 Crab. RTP 1052.

LEO

7 Lion attacking a stag, star in crescent, fish. RTP 432.

VIRGO

8 Three ears of wheat. RTP 681. This was a common symbol for Virgo in later centuries in Islamic art, and refers to Spica, the brightest star of the constellation, which is the grain held in the Virgin's hand.

LIBRA

9 Wreath enclosing a man holding Balances. Outside the wreath and surrounding it are two ram's heads, two bull's heads, and two lion masks. RTP 773.

SCORPIO

10 Scorpion left, eight-rayed star between pincers. RTP 322.

11 Scorpion right, pincers enclosing circle with eight rays. RTP 92.

SAGITTARIUS

12 Sagittarius galloping right; above, star in a crescent. RTP 164.

PISCES

13 Two fish, one above the other, head to tail. RTP 652. This is another very common image.

The absence of the goat-fish and the deity holding the flowing vase - two very distinctive images - may be due to the chance of finds, or it may reflect an alternative terminology, to which we shall refer again.

The Palmyrene material examined in the preceeding pages has an additional interest due to the city's attested ties with Babylon. The links which apparently existed between the cult of Bēl in Palmyra and the Babylonian Bēl-Marduk suggest that the Palmyrenes may have consciously modelled a good deal of their cult on contemporary Babylonian practice. Thus it is reasonable to suppose that the zodiacs reflect icons current at that time in Babylon. Greek and Parthian influence undoubtedly also contributed to Palmyrene life, but as the zodiac would have been of central importance in a planetary cult, and as the Palmyrenes evidently drew on Babylonian religious ideas, a justifiable conclusion is that the Palmyrene zodiacs provide our best source of information on the lost zodiacs that must have existed in Babylon at the same period.

The Nabatean material, to which we shall turn next, also indicates Mesopotamian influences, but in many ways is strongly individual, evidently oriented to a cult different from those examined so far.

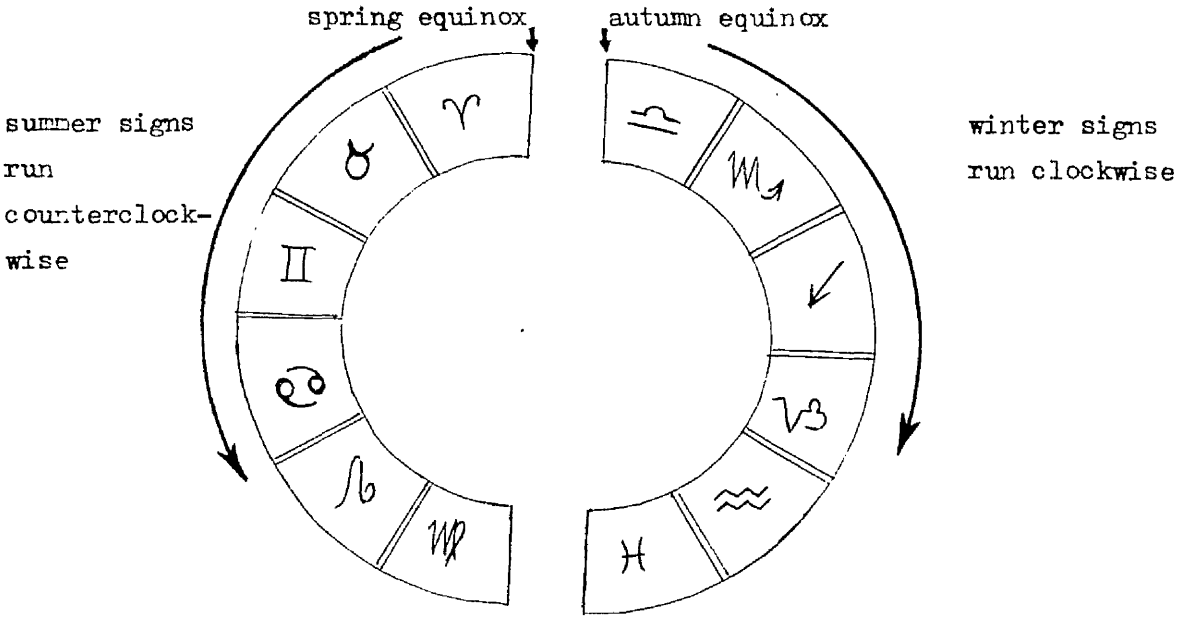
THE NABATEAN ZODIACS

A complete Nabatean zodiac was found in excavations at Khirbet Tannur, a mountain-top sanctuary in southern Jordan, situated away from habitation and thought by Glueck[1] to have been a place of pilgrimage. The limestone relief portrayed the bust of a goddess wearing a mural crown draped with a veil. The crescent moon stands in the field above her right shoulder, and from behind her left shoulder rises a double emblem, perhaps a version of the semeion associated elsewhere with Atargatis. The goddess is framed within the ring of signs, and a second figure, with upraised arms supports the zodiac from below, like Atlas carrying the earth. This figure is not portrayed as a muscular Atlas, however, but as a feminine winged Nike. Unlike the Hellenistic figures of Atlas who are bowed and weary beneath the enormous weight of their burden, the Nike carries herself cheerfully upright, balancing the celestial sphere more in the manner of a peasant girl with a water jar on her head, than of Atlas supporting the world on his shoulders. (Pl. 110).

The zodiac has some interesting peculiarities, not least that it divides unconventionally into two cycles, placed opposite each other. The divisions begin with the equinoxes, which are not separated as usual by half the zodiacal circle, but are placed side by side at the top. From the spring equinox (usually the Ram, but here shown as the bust of a deity) the six signs of spring and summer run consecutively anticlockwise down the left half of the relief. Libra, the autumn equinox, is placed beside the spring equinox at the top, and from it the signs of autumn and winter run clockwise down the right. Thus the two equinoxes head their respective groups of signs, running from top to bottom rather than continuously around the circle. Glueck [2] has suggested that this curious arrangement may indicate that

1 N.Glueck, Deities and dolphins, 1965, 77

2 Ibid., 415.



The arrangement of the zodiac from Khirbet Tannur.

the sanctuary at Khirbet Tannur was visited for biannual religious celebrations concerned with the New Year, that is, with ceremonies inaugurating two six-monthly cycles each year, one beginning with the spring equinox, and the other with the autumn equinox.

If Glueck is correct Khirbet Tannur provides an interesting parallel to a custom practised in certain Mesopotamian cities, where "new year" rites were celebrated at the beginning of both spring and autumn. Texts from Uruk describing the proceedures for the autumn rituals, but referring to the corresponding ceremonies in spring, were noticed by Thureau-Dangin,[3] who also drew attention to the antiquity of the custom, which was practiced under the kings of Ur. The Jews, too, celebrated new year in both spring and autumn, but the new year in spring related to the religious calendar, and the autumn celebrations to the civil calendar. [4] The Khirbet Tannur zodiac, a religious icon found in a sanctuary, suggests a closer analogy

3 F.Thureau-Dangin, Rituels Accadiens, 1921, 86-88.

4 Encyclopaedia Judaica, vol. 5, "calendar", col. 44.

to the Mesopotamian examples, where the spring and autumn ceremonies were religious.

The suggestion that two new years were celebrated at Khirbet Tannur accords well with the iconography of the zodiac relief. Interestingly, it seems to echo an idea that we have already come across in relation to planetary cults, and will see again in material yet to be examined. This is the idea that the two halves of the zodiac symbolize opposite, though complementary cycles; that the northern half is concerned with life and generation, and with the deities who create and preserve life, while the southern half concerns inevitable death and decay, and is under the auspices of those deities who preside over the Hereafter. A cult in which this idea was recognized might logically have biannual dedications, honouring at the beginning of their respective cycles the deities who would be paramount for the ensuing six months. The arrangement of the Khirbet Tannur zodiac suggests just such a distinction between the winter and summer signs. The two halves of the cycle are clearly separated, running in an order counter to each other, and led from the top by the two equinoxes, the opening signs of each sequence. These ideas would necessarily imply the worship of planetary deities, and representations of the planets are well-known in Nabatean art. Glueck mentions a "Helios" [5] with a rayed crown, a "Hermes-Mercury" [6] with a caduceus, and a "Saturn" [7] with a harpé, and although their Nabatean names are unknown, the familiar attributes identify them with the planetary gods.

Three of the conventional zodiacal images, Aries, Sagittarius and Capricorn, have been excised from the Khirbet Tannur zodiac in favour of the busts of deities. Glueck [8] believes the figure replacing Aries to be

5 N.Glueck, Deities and dolphins, 454.
6 Ibid. 466.
7 Ibid. 470.
8 Ibid.415.

female, a type of "Athena-Minerva", who once carried a "slightly raised lance or sword over her left shoulder". One would have expected the figure on the spring equinox to be a solar deity, and perhaps damage to the relief has destroyed some solar attribute. Nevertheless, a local goddess associated with the spring season is also possible. The image of Sagittarius has been replaced with the bust of a young male deity, wearing a chlamys and equipped with a spear. The bust replacing Capricorn is not clearly male or female, and is without attributes except for an elaborate hairstyle. One cannot identify any of the three deities with certainty, so perhaps they represent local divinities whose festivals fell in the month concerned.

Many of the remaining signs represent the conventional images in an unconventional way. All signs portraying human figures are shown as busts, though other zodiacs customarily use the complete figure. The Gemini are male and seem to have their arms about each other's shoulders as usual. The Balance carrier has the Balance suspended over his head, and Virgo has her usual ear of grain. The most interesting of the human signs is Aquarius, a figure whose raised left arm does not hold aloft the conventional Graeco-Roman amphora, but a bucket. The image is unusual at this period, though in later centuries the bucket was regularly portrayed in Islamic zodiacs, and indeed, the most common Arabic term for Aquarius is al-dalw (الدلو), the Bucket. We shall return to this image in chapter 16.

A date in the first quarter of the second century A.D. has been proposed for the Khirbet Tannur zodiac.[9] It was already broken in two when it was found, the pieces perhaps even separated, as the Nike-Atlas was collected on the site before the excavations which brought the rest of the zodiac to light. The pieces are still separated, united only in the photo-montage published by Glueck. The crowned goddess surrounded by the greater part of the zodiac circle is in the Cincinnati Art Museum, and the Nike

9 N.Glueck, op. cit., 433.

with Pisces and a part of Virgo and Aquarius is in private possession in Amman, Jordan.[10]

Further evidence of Nabatean interest in the zodiac is found on a group of seal impressions from Tomb 107 of the necropolis at Kurnab (Mampsis), a Nabatean site in the Negev, which was flourishing in the second century A.D. Each impression shows shows one zodiacal sign with an inscription noting the name of the city and the name of the month (Pl.111-4). Eight examples were found, representing five different signs.

LIBRA The Balance was carried in the right hand of a bearded deity, who wears a crown and holds a sceptre in his left hand. The accompanying inscription has been read as follows:[11]

ΡΑΒΒΑΘΜΟΑΒ	Rabbath-Moab,
ΘΕΣΕΡΕΙ	Tishri.

Libra was shown on two similar, though not identical, seal impressions, one slightly larger than the other, both in black clay. The crowned and sceptred deity holding the Scales is related to the images of Aion with the trappings of royal authority on the Parabiago dish (p. 277) and the mosaic from the triclinium at Carthage (p. 269). The royal deity on the Nabatean seal is undoubtedly to be recognized as Chronos-Saturn on his Exaltation in Libra. Though the majority of antique zodiacs portray the Balance holder as a deity without attributes other than the Scales, we have encountered a similar regal Balance holder on a Palmyrene tessera, and will find another on the zodiac in a Palestinian synagogue to be examined in a later chapter. The use of the same icon among the Palmyrenes and the Nabateans suggests that both groups were open to influences from a common source, and we shall give further consideration to the identity of the source in another context.

10 A.Negev, "Seal impressions from Tomb 107 at Kurnab (Mampsis)", IEJ, XIX, 1969, 89-105.

11 I have used Negev's readings throughout.

SCORPIO The Scorpion, tail raised to the left, was represented by one impression, with the inscription:

ΡΑΒΒΑΘΜΟΩΒΟΝ	Rabbath-Moab,
ΜΑΡΑΞΟΝ	Marheshvan.

SAGITTARIUS The centaur-archer with drawn bow, galloping to right, was accompanied by the inscription:

ΧΑΡΑΚΟΜ[ΩΒΑ]	(sic)	Characmoba,
ΧΑCΛΩ		Kislev.

Sagittarius seems to wear a hat, which is unusual on Graeco-Roman zodiacs, but familiar from the earlier images of Sagittarius on Mesopotamian boundary stones. The tomb contained three impressions of Sagittarius seals, each slightly different. The Khirbet Tannur zodiac, as we have seen, does not portray the centaur-archer but substitutes the bust of a deity with a spear. The three Sagittarius impressions from Kurnab prove that the sign was known to the Nabateans, and indicate that the zodiac from Khirbet Tannur with its unorthodox signs and arrangement, was a deliberate departure from convention, presumably to stress theological concepts.

AQUARIUS The seal impression shows a youthful figure, perhaps female, carrying a very tall amphora. The inscription, partly inverted, reads:

ΧΑΡΑΚ[ΟΜΩ]ΒΑ	Characmoba,
⊥∀8∀Ↄ	Shebat.

Classical sources normally interpret the water-carrier as male, often as Ganymede, [12] or as a river god. Negev has taken the figure to be feminine and if he is correct, the image is unusual. The Syrian goddesses Atargatis and Derceto were associated with ponds and rivers, and it is possible that the figure on the seal represents a similar goddess or river nymph of the Nabatean pantheon. The elegant vessel and posture of the Aquarius from

12 Manilius, Astronom. V, 487.

Kurnab is in marked contrast to the sturdy bust with a bucket that portrays Aquarius in the Khirbet Tannur zodiac.

An eighth seal impression was too badly damaged to identify with confidence. Negev suggested that the animal was either a ram (Aries) or a kid (Capricorn), but the image was broken and the part of the inscription giving the month name, which would have confirmed one or other image, was destroyed, though the name of the city, Characmoba, was legible. The Khirbet Tannur zodiac portrayed neither Aries nor Capricorn, but substituted the bust of a deity for each.

Negev has proposed a date for the seal impressions in the second quarter of the second century A.D., that is, within fifty years of the date suggested for the Khirbet Tannur zodiac. The two sets of zodiac images complement each other and suggest something of the influences operating within the Nabatean milieu. The seals whose impressions were found in the Kurnab tomb were functional objects used in an urban setting, possibly for official purposes. Negev [13] plausibly suggested that local authorities in Rabbathmoab and Characmoba may have been in the habit of using a "seal of the month" on official documents. Whatever their purpose, the seals with their Greek inscriptions and elegantly posed images indicate the kind of influences one would expect on an official object in an urban centre within the Roman orbit. Nevertheless, the human signs have been given a local rendering by simplifying the bodies and enlarging the heads, while the headdresses on the Balance-holder and Sagittarius suggest influences from Mesopotamia. At Khirbet Tannur, however, the robust, somewhat naive images are almost agressively indigenous in their effort to express a well-established religious tradition. The contrast between the two renderings of Aquarius

13 A.Negev, "Seal impressions from Tomb 107 at Kurnab", IEJ, XIX, 1969, 106.

is indicative of the differences between the two cycles. The graceful figure on the seal with the elegant amphora held at shoulder height is a Nabatean Greek. The Khirbet Tannur Aquarius with the practical bucket is sturdily peasant, and undoubtedly represents a well-established local tradition concerning the constellation, as Aquarius, after all, had been known in Syria since the second millennium B.C. (above, p. 88). Together they suggest something of the forces operating in Nabatean society.

Chapter thirteen. THE ZODIAC IN FUNERARY ART

Introduction. ASTRAL IMMORTALITY

An ancient doctrine, presumably stemming from Near Eastern sources but known to the Greeks at least from the time of Plato, taught that the human soul had its origin and final resting place among the stars. The doctrine seems to have penetrated to Italy with other astral lore by the end of the third century B.C. [1] and was evidently known to both the Etruscans [2] and Romans, but visual and literary evidence suggests a more broadly-based acceptance of the belief from around the beginning of the first century B.C. From that time, Roman authors such as Varro, Nigidius Figulus and Vitruvius displayed a general interest in astrological doctrines, and Cicero, in his description of the Dream of Scipio (De re rep. VI) expounded the theory that faithful service to the state would be rewarded with immortality among the stars. Thus the idea of the soul's return to celestial regions was known to the Romans from before the beginning of the empire, though undoubtedly it achieved a wider acceptance with the increasing popularity of astral religions in the centuries immediately following. Once accepted, the belief seems to have become an almost universal tenet of faith. The new monotheistic religions, while waging a relentless battle against some pagan views, were content to follow the lead in regarding heaven and paradise as synonymous. The belief survives to the present day, though an improved knowledge of the physical universe has perhaps encouraged a less material concept of heaven than was formerly the case.

1 See above, p. 135.

2 For an attempt to reconstruct some Etruscan cosmology, see S.Weinstock, "Martianus Capella and the cosmic system of the Etruscans", JRS XXXVI, 1946, 100-109.

In antiquity, diverse opinions concerning the fate of the soul apparently existed side by side, as one finds differing views expressed by different authors. Nevertheless, by the first century A.D. there seems to have been a nucleus of ideas held in common among the followers of astral religions on which the various doctrines were erected. The common basis rested on a mixture of observation and reason, and may be expressed as follows: the human soul is immortal, though it exists in a body which, like all other living things on earth, is subject to death and decay. It was noted that the sky, circling continuously, marked the seasonal changes on earth with differing patterns of stars, but over many generations of observation had shown no evidence in itself of corruption or decay. Logically, then, the immortal human soul had its true home in that region which to observers on earth appears to be eternal, that is, the sphere of the fixed stars. From there the soul came, and to the same place it would return.

On this kernel of ideas various doctrines were constructed. To many thinkers the sky itself was divine,[3] a primary manifestation of the Supreme Mind that was the first cause of all things, yet beyond all things. It was thought that mortality and change was a function of Time, and that all things living below the sphere of the moon, the great marker of time's passing, were subject to time, and therefore to decay and death. Above the sphere of the moon (recognized as the closest of the celestial bodies to the earth) changelessness and pre-determined order were the outward signs of divine intelligence, and incorruptible immortality. [4]

3 See for instance, Macrobius, Commentary on the dream of Scipio, I, xvii, 8. Macrobius admits to drawing freely on the middle Platonic philosophers such as Porphyry.

4 Macrobius, ibid. I, xi, 6.

A belief in reincarnation is well-attested, and seems to have taken several forms. The Pythagoreans and Stoics ascribed to a doctrine of eternal recurrence, according to which the universe is finite and has a finite number of states, but Time is infinite, and therefore repetition is inevitable. Over long periods of time, that is, after the expiry of a Great Year, the patterns of the sky will be repeated exactly, and since the destiny of life on earth is determined by the course of the celestial bodies, the pattern of earthly life will also be repeated, and those who lived in times past will live their lives again, exactly as before. [5]

Others evidently assumed that the soul would in due course return to a new body but without necessarily supposing that it would live the same life, and the time believed to elapse between incarnations varied considerably from writer to writer. Varro (c.80 B.C.) apparently referred to a period of 440 years in De gente populi Romani,[6] and Silius Italicus (first century A.D.) mentioned 5,000 years (Punica, I, 194). Different opinions were given by others, but there seems to have been general agreement that a life lived worthily in the body was a necessary pre-condition for the soul to be raised to bliss. Ironically, however, for some an unstained life ensured a satisfactory rebirth, while for others it was the means of escape from rebirth!

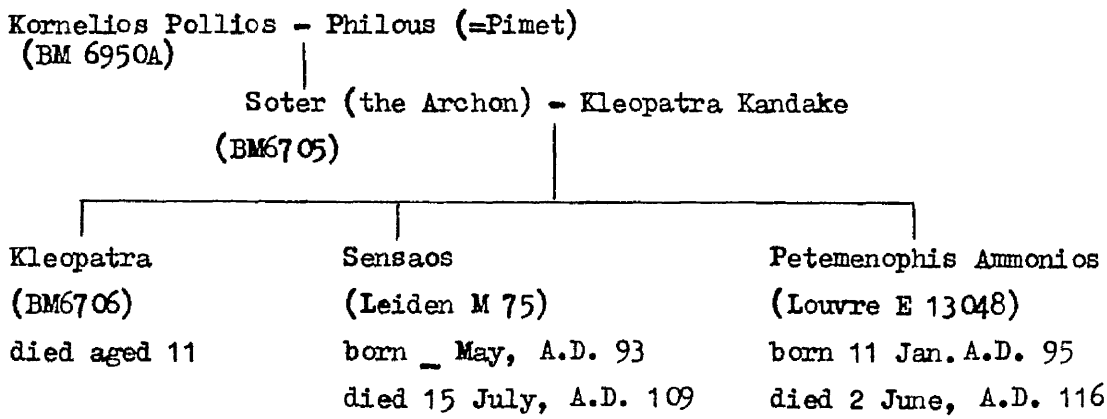
The foregoing summary will serve to indicate the variety and complexity of doctrines concerning the soul that were current during the period of the Roman empire, as space will not permit a more detailed analysis in the present context. Preliminary to an examination of funerary

5 Jonathan Barnes, The presocratic philosophers, 502-507.

6 F.Cramer, Astrology in Roman law and politics, 66. Cramer also noted that according to Pliny (N.H. 35, 1, 60) Varro requested to be buried according to Pythagorean ritual.

zodiacs, it is merely necessary to stress two points: that the soul was deemed by many to come from and return to the stars; and that as a result of Pythagorean [7] and possibly ultimate eastern influences, a belief in reincarnation was prevalent in influential circles. As visual evidence of these beliefs, some thirty monuments depict the zodiac or particular zodiacal signs. These will be considered in groups, according to type and subject matter.

Stars and other celestial symbols occur on Roman funerary monuments in the first century B.C.[8] but the earliest known occurrence of the zodiac in a funerary context is on a group of Graeco-Egyptian sarcophagi. A family tomb found at Sheikh ʿAbd al-Qurna in the Theban necropolis contained some fourteen painted wooden coffins, now scattered, of which five were decorated with the zodiac. These five range in date from the end of the first century A.D. through the first quarter of the second century, and were made for three generations of family members, as follows: [9]



7 It is an open question whether Pythagoras knew of Indian ideas of reincarnation.

8 For instance, a relief in the Aquila Museum shows the deceased under a star-decked canopy. See E.Strong, Apotheosis and Afterlife, 175-80; I.S.Ryberg, "Rites", 36, note 76, fig. 19b.

9 The family diagram is based on the one published by Neugebauer and Parker, EAT, III, 90. The dates are from inscriptions.

THE ZODIAC SARCOPHAGI: THE PAINTED EGYPTIAN COFFINS

The painted designs in the five coffins are not identical but based on a similar scheme. Nut, the sky goddess, dressed in a long skirt and tight-fitting bodice, was portrayed with arms upraised and surrounded by the sun, the signs of the zodiac, and figures representing the hours of the day and night. The designs were painted on the interior of the coffin lid, that is, the lid has become a counterfeit sky, complete with celestial divinities, arching over the body of the deceased. On either side of the goddess are six zodiacal signs, divided so that the summer solstice lies at her breast and the winter solstice at her feet (Pl. 133 and Figs 67, 70).

Iconographically, the signs in this group of sarcophagi are of particular interest, as some preserve Babylonian characteristics, while others are strongly Egyptianizing. Two signs especially have archaic elements that hark back to earlier Babylonian icons. These are Leo and Sagittarius. The astral lion, in Mesopotamian art was often shown walking along the back of the serpent-dragon Hydra (above, p. 71) while the centaur-archer could be portrayed with three unusual elements: two heads, back to back, one human, one canine; two tails, one that of a horse, the other that of a scorpion; and wings that spring from the body of the horse rather than the shoulders of the man. These two signs were portrayed in similar fashion on the Theban coffins. Leo tramples on a serpent in four of the five zodiacs, though the serpent has been reduced to smaller proportions than the giant Hydra. The one exception is on the sarcophagus of Kleopatra (BM6706) where the snake-like object under the lion's feet seems in fact to represent the front portion of a schematic boat, of the kind in which astral divinities are often portrayed sailing across the sky in Egyptian art (Fig. 67). Evidently, the serpent trampled by Leo is no ordinary snake, as on the

coffins of Sensaos (Leiden M 75) and Petemenophis (Louvre E 13048) it has ears, and on another coffin to be examined presently, we shall find it has horns. In Mesopotamian art, horns were the mark of a serpent-dragon. Sagittarius takes the ancient Mesopotamian form on the coffins of the Theban family, though it varies slightly from one example to another, and in two cases the centaur-archer wears the Egyptian atef crown. The variations of the Sagittarius icons are distributed as follows:
Double head: appears on the coffins of Kleopatra and Petemenophis;
Wings: on the coffins of Kleopatra, Petemenophis, and Sensaos;
Scorpion's tail: on the coffins of Kleopatra and Petemenophis;
Atef crown: on the coffins of Petemenophis and Sensaos.
On the coffins of Kornelios Pollios (BM6950A) and Soter (BM6705), the centaur-archer takes the form it usually assumes on Graeco-Roman zodiacs, without wings, scorpion's tail or double head.

The Egyptian background of the Theban zodiacs is apparent in the clothing and wigs of the human signs such as Virgo and the Gemini, and on the coffins of Kleopatra, Petemenophis and Sensaos, Aquarius is identified by his papyrus crown as the Nile god Hapi. A minor difference in presentation of Aquarius on Egyptian and Graeco-Roman zodiacs suggests that the Egyptian figure is probably to be interpreted as Hapi, even when the papyrus crown was not added. On Graeco-Roman zodiacs, Aquarius carries a single flowing vase, but on Egyptian zodiacs he carries two vases, perhaps representing the Nile in the divisions of Upper and Lower Egypt.

Even in the Ptolemaic period Egyptian zodiacs juxtaposed signs having archaic Babylonian features and signs interpreted with Egyptian icons. The winged, double-headed Sagittarius and the Lion trampling a snake appear in the Hellenistic round zodiac at Dendera (Pl. 60)and that these icons were still in use when the Theban coffins were painted suggests

that the Lion and Centaur-archer in this form had aquired a meaning in terms of Egyptian religion. It is significant that these forms of the signs Leo and Sagittarius do not appear on astrological monuments such as the planispheres (see Pls 117-119) where, despite other Egyptianizing features, Leo and Sagittarius are portrayed by the usual Graeco-Roman forms. The snake-trampling Leo and the winged, double-headed centaur-archer appear only in temple or funerary zodiacs, and presently we shall find further examples.

Of equal interest is the portrayal of the sign Libra. It is shown as a set of Balances, the beams often terminating in lotus flowers, while resting on the beam above the pivot point of the Balance, is sometimes the solar disc, sometimes a squatting baboon. Demotic texts normally refer to the sign Libra as "the Horizon", but the reason for this has not been convincingly established. An ostracon in the Strassburg collection (D521) (above, p. 130), discussed by Neugebauer in 1943,[10] shows that the term was in use by the third century B.C. In this article Neugebauer suggested that the term may have been due to the heliacal rising of Libra co-inciding in that period with the Egyptian New Year, though he has apparently abandoned this position as in a later publication he wrote that the reason for the use of the term was unknown.[11] Daressy,[12] and later Stern,[13] also mentioned that Libra was called the Horizon in Demotic texts, and noted that Horus was

10 O.Neugebauer, "Demotic Horoscopes", JAOS, LXIII, 1943, 121-3.

11 Neugebauer and Parker, EAT III, 207.

12 G.Daressy, "L'Egypte céleste", Bulletin de l'Institute Français d'archéologie orientale, XII, 1916, 15.

13 H.Stern, Le calendrier de 354, 195.

associated with the rising sun, and therefore with the horizon. They were, I believe, correct in looking towards the field of religion or mythology rather than astronomy for an explanation, and I propose to show that a doctrine implicit in Demotic astrological texts can satisfactorily clarify the term, while at the same time agreeing with the iconography of Libra as we find it in the Egyptian funerary and temple zodiacs.

According to Neugebauer,[14] Hieratic-Demotic texts commonly render Libra by the sign  , but in a few texts, such as P.Cairo 50143, the form used is  . Little imagination is required to visualize either sign as representing the sun on the horizon. The modern symbol for Libra,  , has been in use at least since the fourth century A.D.[14a] It too might easily signify the sun on the horizon, though probably with the additional meaning of balance, or the beam of the Scales also implied. Thus, if the ancient symbols mean anything, they imply that it is the sun, rather than a constellation, that we may expect to find on the horizon.

It will emerge now that the sun on the horizon in Libra is not rising, but setting. The sign Libra marks the autumn equinox, the point at which the sun crosses the celestial equator and embarks on the southern, autumn-winter half of its yearly journey, in which its power is diminished. The terminology relates the sun's yearly journey through the zodiac to its daily course above and below the horizon. Thus, the spring equinox in Aries, where the sun begins its rise towards summer can be regarded as equivalent to the point of sunrise in the east; Libra, the beginning of the sun's descent towards winter, is as its

14 O.Neugebauer, "Demotic horoscopes", JAOS, LXIII, 1943, 123.

14a See also above, p. 253.

setting in the western sky (see Fig. p.239). In Egyptian texts the dead are also associated with the west, and Osiris is said to preside over the Westerners.[15] The sun, sinking below the horizon in the west, was thought to be entering the gates of the Underworld, and in terms of its yearly course through the zodiac, the same concept was applied as it passed through the autumn equinox in Libra. Intimations of this concept existing in Egyptian astrology are preserved in the terminology of Demotic horoscopes, where the two centres known in Graeco-Roman astrological texts as the Upper Mid-heaven and the Lower Mid-heaven (Appendix A.4.), are referred to as the Lake of the Sky and the Lake of the Dwat.[16]

Libra was the symbolic entrance to the underworld, and because of this, the scales of the constellation were taken as emblematic of the ancient Egyptian doctrine which taught that the souls of the dead would be weighed to determine their fate. The assimilation is clearly intimated by the icons representing Libra in the zodiacal paintings on the Theban coffins. According to the Book of the Dead,[17] the heart of those newly arrived in the Underworld was to be placed on the Balance and weighed against Truth, while Thoth in baboon form presided over the weighing. The coffins of Soter and Kleopatra show the baboon squatting over the balance beam, and in Kleopatra's zodiac the weighing is

15 T.G.Allen, The book of the dead, or going forth by day, 1974, Spell 1, part 7.

16 O.Neugebauer, "Demotic Horoscopes", JAOS, LXIII, 1943, 116-118. The Egyptians apparently imagined the sky with similar geography to the earth, as they refer to celestial reed-marshes, lakes and rivers, and even divided the sky into Nomes. See G.Daressy, "L'egypte céleste" op. cit. 1.

17 T.G.Allen, op.cit. Spell 125, part D. p.101.

apparently in progress, as objects are portrayed in the two pans. The Libra on the coffin of Kornelios Pollios has broken away, leaving only a little of the beam, but on the coffins of Sensaos and Petemenophis the beam is surmounted by the sun-disc, evidently as a reference to the sun's entry into the underworld as well as to the function of the Scales.

The icons chosen to portray the signs on the Theban coffins suggest that the zodiac had been thoroughly absorbed into Egyptian religious mythology, in which an important astral component had long existed. The same icons were already in use on the temple zodiacs of the Ptolemaic period, and we shall find them again in other Egyptian zodiacs to be examined in this chapter. Indeed, the assimilation was so complete by the first century B.C. that the Egyptian priests were no longer aware - or prepared to admit - that the zodiac sprang from a foreign origin. Diodorus of Sicily (I, 81, 6) wrote of the Egyptians:

> "according to them, the Chaldeans of Babylon, being colonists from Egypt (sic!), enjoy the fame which they have for their astrology because they learned that science from the priests of Egypt."

The assertions of the Egyptian priests must have been made with conviction, for antique authors continued to show confusion about the relative claims of Babylonia and Egypt until the end of antiquity, and even in modern times, many scholars have preferred to admit the claims of Egypt. As we have demonstrated, however, the icons used for the zodiacal constellations had been in use in Mesopotamia for many hundreds of years before their first appearance in Egypt. Of recent years, scholars interested in the history of science have also realized that research into Egyptian mathematics and astronomy has not revealed anything that could support an Egyptian origin for the zodiac. G.J.Toomer [18] wrote:

18 G.J.Toomer, "Mathematics and astronomy" in the Legacy of Egypt, 1971, 52.

> "What is surprising is the persistance of the tradition in the Greek world that the Egyptians were both theoretical and observational astronomers. We can say with certainty that the first adjective is false; of the second, all that can be said is that there is no trace of astronomical observation (beyond what has been described above) in all the immense mass of documents from Egypt, and that the Greek astronomer Ptolemy, who lived in Egypt and used all the observational material available to him, including Babylonian records, does not quote a single Egyptian observation in all his voluminous work ".

What Toomer had "described above" were the decans, for which an Egyptian origin cannot be doubted. His opinion concerning Egyptian astronomy is shared by other historians of science, Neugebauer having expressed a similar view as early as 1945.[19] The question of an Egyptian origin for the zodiac may confidently be laid to rest, though the evidence shows they adopted it with enthusiasm, and probably contributed liberally to the plethora of complex astrological doctrines in vogue by late antiquity.

The concept of the sun passing symbolically into the Underworld at the autumn equinox certainly originated in Mesopotamia. It is implicit in the doctrine of planetary Exaltations, for those planets linked with a deity of death are Exalted in the southern, or winter half of the zodiac, between Libra and Pisces. The second New Year festival celebrated in some Mesopotamian cities at the autumn equinox may have been concerned with the sun's entry into the lower half of its cycle, that is, into the Underworld. By the Roman period traces of the idea that the winter months, or the southern signs of the zodiac, pertain to the gods of death occur in several contexts. The Roman Saturnalia, for instance, was celebrated at mid-winter, and Macrobius (Sat. I, 16, 17) remarked that battle was forbidden during the Saturnalia on religious grounds, and that in any case, during this period the entrance to the Underworld

19 O.Neugebauer, "The history of ancient astronomy" JNES, IV no.1, 1945, 2, 5.

was open, and "men deemed it better to go out to battle when the jaws of Pluto were shut". A similar train of thought was doubtless responsible for Capricorn, the most southerly of the signs, being thought of as the gate for the ascent of souls (above, p. 219), and according to Firmicus Maternus (Math. VIII, 12, 2) the River Styx, the well-known river of Hades, was said to be in the eighth degree of Libra. A text attributed to Hermes Trismegistus makes the same point by referring to one of the decans of Libra as a funerary barge,[20] once more inferring that Libra is at the entrance to the Underworld. Thus the iconography of Libra on the Theban coffins fits into the notions concerning the sign that were prevalent in the Graeco-Roman world. The same climate of ideas relating the southern signs to the deities of the Underworld, was responsible for the inverted zodiacs found with deities identified with the planets Mars and Saturn (above, Ch. 7).

Returning now to the coffins of the Theban family, two details may briefly claim our attention. Capricorn in the zodiac of Petemenophis (Fig. 70) is not in its place near Sagittarius, but has been elevated to a position near the sun above Nut's head. According to an inscription on the coffin, Petemenophis was born on 11 January, and at that time of the year the sun is in Capricorn, so presumably the goat-fish represented the month of his birthday. On Soter's coffin, a small jar is balanced on the head of Nut, directly beneath the sun painted on the end of the lid (Pl.133). The jar is of the kind often used to portray Aquarius, and may have been intended to suggest the month in which Soter was born, but unfortunately, in this case there is no inscription to confirm or deny the hypothesis. The jar, however, is oddly placed unless such a meaning was intended.

20 W.Gundel, Neue astrologische Texte, 236.

A sixth wooden sarcophagus with the zodiac belonged to a man named Heter. It seems to have come from Thebes, though not from the same family tomb as our previous examples, but was designed to a corresponding scheme. Nut, her arms upraised, stretches along the interior of the coffin lid, with the signs of the zodiac arranged at her sides. She is bare-breasted and dressed in a skirt decorated with the same distinctive lattice pattern that she wears on other zodiac coffins. The repeated portrayal of the same skirt on so many paintings suggests that it may represent a real garment, perhaps from the wardrobe of the temple statue of the goddess. The zodiac is divided at the solstices, with the six signs from Cancer to Sagittarius lying by her right side, and those from Capricorn to Gemini on her left. Apparently by error, the artist has arranged the signs so that the order runs from breast to foot on both sides, instead of running from breast to foot, then foot to breast, as though encircling the goddess in continuous order. The signs face towards the head of Nut; Sagittarius has a double head, wings and a scorpion's tail as well as the atef crown; Leo is treading a horned snake; and Aquarius wears the papyrus crown. To the right of the goddess are some of the northern and southern constellations; to her left the planets; and around the edge the divinities of the twenty-four hours of the day and night. In the four corners are creatures representing the four winds,[21] forming a curious link with the scheme, though not the icons, of other Graeco-Roman zodiacs, where the four winds are often portrayed (Fig. 67).

Heter's coffin has an additional feature of some interest, as it contains a horoscope. The names of the planets were written near the appropriate signs in a mixture of cursive hieroglyphic and demotic

21 O.Neugebauer, R.Parker, EAT, III, no. 71, p. 93.

scripts:

Jupiter and Saturn in Leo

end of Virgo, Mars

Mercury in Scorpio,

Ascendant, Venus, between Scorpio and Sagittarius.

From this information Neugebauer calculated that Heter was born on 1 October, A.D.93. A demotic inscription elsewhere on the coffin noted that he had died aged 31 years, 5 months and 25 days, so he died in A.D. 125 and the coffin must date to that year or a little earlier. Thus chronologically as well as iconographically, Heter's coffin is close to those of the Theban family already discussed.

A fragment of the wooden sarcophagus of Senpeteuris, now in the Louvre (Eg. 1363-64), is the seventh of our Egyptian funerary zodiacs, this time taking a format rather different from the previous examples. The two extant boards are painted with a circular zodiac of which six signs, Scorpio, Sagittarius, Capricorn, Aquarius, Pisces and Aries, are intact, while Libra and Taurus are preserved in part. The ring of signs encloses a circular space divided into two registers. In the upper portion a standing male figure in the solar disk is carried in a reed boat. In the lower register is another boat supporting the lunar crescent and disk, the latter framing a squatting baboon.
Two of the signs, Aquarius and Libra, are portrayed as nude men, whose pose and rendering are more Greek than Egyptian, though in other ways the zodiac retains the mixture of Egyptian and Babylonian characteristics seen on the other sarcophagi. Sagittarius has the Babylonian attributes of double head, wings and scorpion's tail, while the Pisces are arranged head to head in the Egyptian manner, rather than head to tail as they appear on Graeco-Roman monuments. In many respects, the zodiac painting on the coffin of Senpeteuris is closer to the group of paintings

we shall examine next, rather than those already discussed.

THE ZODIAC TOMBS, AL-SALĀMŪN

The six zodiac ceilings in the rock tombs at al-Salāmūn, already noted in connection with the deities Isis and Horus (pp. 256-9) have a heterodox iconography with some unique features. The drawings are somewhat naive and all have sustained damage, but an underlying unity of concept makes it possible to study them as a group, thus each sign is represented by at least one example. Where it is necessary to refer to individual ceilings, the numbering system used by Neugebauer and Parker[22] will be adopted.

On four ceilings the zodiac is designed as a ring, divided into twelve segments and surrounding the image of a deity. In tombs 3A and 8A, the deity at the centre is Isis riding a dog, in tomb 3B the zodiac encircles Harpocrates, and in tomb 8B the centre is divided into two registers, of which the lower one portrays a boat, in which Harpocrates in a sun disk on a lotus is flanked by six seated gods, while the upper register is almost obliterated. Of the two remaining zodiacs, the one in tomb 7 may have had a similar format, but only a tiny fragment of Virgo and Libra can be distinguished, while in tomb 6 the ring grid was omitted, the signs being loosely arranged to encircle a squatting Harpocrates (Figs 69, 72, 73).

The signs display an interesting iconographic mix. Sagittarius, taking his ancient Babylonian form, has wings, a scorpion's tail and two heads, the head of a dog very prominently placed behind the human head. Leo, however, is not trampling the snake, and the scales are carried by a male deity as they are on Graeco-Roman zodiacs. The signs in human form are portrayed in the poses of Graeco-Roman art, rather

22 O.Neugebauer, R.Parker, EAT, III, 100-101.

than Egyptian art, and male figures are nude except for the chlamys. Two signs are unique. Aquarius is consistently portrayed as a standing man with a papyrus reed (sceptre ?), and though without a vase, or pouring water, he is presumably still to be interpreted as representing the waters of the Nile. Scorpio in tombs 3A and 3B has become a Scorpion-woman, depicted with her arms raised as though arranging her hair. On other ceilings, however, the sign is rendered as an ordinary scorpion.

The zodiac ceilings show a dependence on both Egyptian and Graeco-Roman traditions. The double-headed scorpion-tailed Sagittarius, for instance, had been adopted into Egyptian zodiac iconography as early as the Hellenistic period (above, p. 124), and the evidence of the sarcophagi suggests that it remained important in the context of Egyptian religion through the Roman period. It is worth mentioning that no examples are known outside Egypt from later than Achaemenid times. Other icons, on the contrary, such as the male figure supporting the Balances, were evidently developed in a Graeco-Roman context and must have entered Egyptian zodiac iconography from that source. Libra's position on the autumn equinox and its reputation as the entrance to the Underworld would give it a symbolic value, and the method chosen for its portrayal in a funerary context is surely significant. The sign may have an added value in the cult of Isis, as Libra was the Exaltation of Saturn, who as a god of Time was apparently identified with deities such as Aion and Sarapis, and perhaps even with Horus (above, p. 258)

The paintings of Isis and Horus at the centre of the zodiac suggest that those buried in the tombs were devotees of the cult of Isis. The cult seems to have made a considerable contribution to the religious life of the Roman empire, but it would seem from the iconography of the tomb zodiacs that the empire also made a contribution to the cult

of Isis. Comparison of the tomb zodiacs with those surrounding the body of Nut on the sarcophagi suggests that the two groups spring from different religious backgrounds. The two forms of the sign Libra, for instance, are not merely superficial variations made by artists of different cultural backgrounds, but suggest fundamental differences of belief concerning the fate of the soul after death. In both cases a judgement is implied, but whereas the sarcophagi present the judgement in terms of the Book of the Dead, the ceilings at al-Salāmūn apparently refer to quite a different setting, perhaps more in keeping with the myth recorded by Plato in the Gorgias (523 f.), or as the cult of Isis was closely associated with that of Sarapis, perhaps the figure with the scales is an aspect of Sarapis-Saturn, whose authority over the entrance to the Underworld has already been discussed.

One further Egyptian tomb with painted zodiacs on the ceiling remains to be discussed. A TOMB AT ARTHRIBIS, shared by two brothers, Ib-pmeny and Pa-mehit, had two zodiacs painted on the ceiling, each representing the horoscope of one of the brothers. The horoscopes will be discussed in a later chapter (p. 382) so here it will suffice to comment on the iconography. This is closely related to the zodiacs on the Theban coffins, where human figures were dressed in Egyptian costumes and carried the attributes of Egyptian deities. As usual, Aquarius is shown as Hapi, wearing the papyrus crown and carrying two vases. Sagittarius, who wears the atef crown, has the complex form seen in so many other Egyptian funerary zodiacs, with two heads, two tails and wings. A sun disk containing a falcon surmounts the balance beam of Libra and Cancer is shown as a scarab. At one end of the painting a tall figure wearing the white crown and a short tunic represents the constellation Orion, said to be Osiris in the Pyramid texts (above, p. 242), and mentioned in connection with departed souls. Several human-headed

birds representing the ba, or soul, of deceased persons are clustered around Orion, two distinguished by inscriptions as the brothers Ib-pmeny and Pa-mehit. Near Orion, Sothis is portrayed as a cow with a star between its horns kneeling in a papyrus-reed boat, an icon well-known from other Egyptian ceilings.[23] This tomb was probably painted later in the second century than our previous examples (below, p. 384), but iconographically it relates best to the earlier sarcophagi of the Theban family, and it might reasonably be supposed that their religious affiliations were similar.

Turning now from Egypt to the Italian mainland, we find the zodiac used in the funerary art of private citizens before the end of the second century A.D. Evidence suggests that prior to the use of the zodiac in this context, one or more stars were sometimes portrayed to indicate the soul's resting place. It will suffice to mention two examples of this trend, which was already apparent in the first centuries B. C. and A.D. A relief in the Aquila Museum, believed to date to the first century B.C. portrays a funeral procession with pall-bearers, mourners and musicians. The deceased is shown reclining on a couch under a canopy liberally dotted with stars and the crescent moon.[24] A second relief, this time from the first century A.D., portrays the imperial family assimilated to the gods: a semi-draped Augustus with his foot resting on a celestial globe; Livia as Venus Genetrix; and a young man, probably Germanicus, with a star on his brow to indicate that by his death he has ascended to be among the divine stars.[25]

23 Neugebauer and Parker, EAT III, 73.

24 E.Strong, Apotheosis and afterlife, 175-180.
Ch. Hülsen, "Relief von Aquila", Röm. Mitt. V, 1890, 72-73.
I.S.Ryberg, "Rites of the state religion in Roman art" Memoirs of the American Academy in Rome, XXII, 1955, 36, n.76, fig. 19 B.

25 I.S.Ryberg, op. cit. 90-92, Fig. 42 B. Ravenna, Mus. Naz. d'Antichita.

Few of the surviving funerary zodiacs are precisely dateable, the welcome exceptions among the Egyptian examples being the coffins of Sensaos, Petemenophis and Heter. One further exception is the apotheosis monument of Antoninus Pius, which was apparently made soon after the emperor's death in A.D. 161. The date of the remaining examples, the majority of which are probably later, can only be estimated from the internal evidence of the iconography, or in some cases from the archaeological setting in which the object was found. This being so, we will consider the remaining monuments thematically, beginning with a group of carved stone sarcophagi from Italy, and concluding with a group of apotheosis monuments.

ROMAN SARCOPHAGI: THE ZODIAC AND SEASONS

The three zodiac sarcophagi from Italy were studied at some length by Hanfmann,[26] who noted that sarcophagi in general belong to a fairly late phase of Roman art, reminding us that the earlier Romans tended to favour cremations. He suggested for these examples dates in the third and fourth centuries: c. A.D. 250 for the earliest, now in the Campo Santo, Pisa (Papini no. 40); c.A.D. 310 for a fragment in the Sassari Museum; and c. A.D. 330-340 for the sarcophagus at Dumbarton Oaks. All three share a common decorative scheme. At the centre of the principal face is a portrait of the deceased, sometimes one person alone (e.g. Sassari), and sometimes a husband and wife (Pisa and Dumbarton Oaks). The portraits are enclosed in the zodiac ring, and flanked on either side by the personified seasons (Pls 120, 122, 123). Apart from this basic scheme, each has additional allegorical figures and decorative elements that embroider various aspects of the theme, creating the differences between one sarcophagus and another.

26 G.M.A.Hanfmann, The seasons sarcophagus in Dumbarton Oaks, 1951.

We will confine our attention primarily to those elements that all three share: the medallion portrait, the zodiac and the seasons.

The combination of zodiac and seasons suggests the theme of cosmic renewal that we have encountered already on the mosaics and other works portraying Aion (above, Ch. 10). Here, however, because the theme is used on a sarcophagus and surrounds the busts of the deceased, the inescapable implication is an expectation of the renewal of human life with the pulsating rhythmn of the universe. Had the zodiac been used without the seasons, one might have supposed a belief in the soul's transition to the stars, but the zodiac with the seasons I suggest can only mean a belief in the renewal of physical life. That such doctrines were abroad in antiquity we have seen from the brief discussion at the beginning of this chapter. Let us consider each of the main iconographic elements in turn.

The zodiac has the conventional Roman images and is oriented with spring signs, Aries and Taurus, at the top. This in itself is a symbol of renewal, reinforcing the message of the seasons. Firmicus Maternus, after discussing the cosmic Great Year, mentioned (Math. VIII, 17, 6) that between Pisces and Aries is the end and beginning of the world. We have seen, too, that the Time god portrayed in the zodiac ring inevitably rested his hand on the spring signs, where an annual thrust of new energy maintained the impetus of the year, while the gesture itself expressed the constant renewal of the cycle.

On all three sarcophagi the seasons are presented as boys, though in an earlier period they were traditionally feminine, and still appeared as such even on very late monuments, for instance the synagogue mosaics, to be discussed in another chapter (Ch. 15). We have already seen the seasons depicted as male children, however, on some of the monuments

portraying Aion, such as the mosaic from Sentium (Pl. 95), and the Parabiago dish (Pl. 101). The latter, whose main theme is the triumph of Cybele and Attis, has another interesting connection with the Dumbarton Oaks sarcophagus, for there the Winter season is dressed as Attis, and the boar, by which he was killed in one version of the myth, stands at his feet. Attis, as we suggested above, seems to have been regarded by some as another aspect of the Time god, who was also recognized in Mithras and Sarapis.

According to Hanfmann, [27] the seasons were a popular motif in Roman funerary art, appearing on tombstones in the first century A.D. and known on altars, statues and in the decoration of tombs. An example of the latter is the mosaic from the Isola Sacra at Ostia (Fig. 63), which portrays an elderly Aion seated on a rock and holding the zodiac ring for the seasons to pass through one by one. On sarcophagi, the seasons were most frequently used from the early third to the mid-fourth century A.D. From this period some hundreds of examples, including fragments, have been published. The design most commonly used was one in which the seasons were combined with a central medallion enclosing the bust of the deceased. Hanfmann's [28] observation that the bust in a medallion had been used for portraying the gods from the time of Alexander raises an interesting point. We have seen that the time of Alexander was the period in which the zodiac began to achieve popularity in the Greek world, and we have seen that the ring enclosing the portrait medallion was interpreted as the zodiac on at least the three sarcophagi that we have been discussing. It is also true that the soul of the deceased was regarded as immortal, capable of ascending to dwell among the gods in the celestial regions. It seems probable that the medallion

27 G.Hanfmann, Seasons sarcophagus, 9-25.

28 Ibid. 25, note 55.

ring, when applied to the busts of the gods or the deceased, had a definite cosmic significance, even when this was not stated as explicitly as on the zodiac sarcophagi from Pisa, Sassari, and Dumbarton Oaks. If the medallion rings enclosing busts of the gods or the deceased were intended to refer to the zodiacal circle even when the signs were not shown, they bear a similarity to the many portraits of Aion on which the zodiac ring supported by him was not divided into the twelve signs. Perhaps Aion's ring and the bands that encircle the portrait medallions were so obvious a reference to the ecliptic ring, or the circle of the universe in antiquity, that marking the signs was unnecessary.

Sometimes a reference to the seasons took other forms. The North African Mausoleum of Henchir al-Massoudi [29] had a zodiac decoration in which the signs were apparently grouped to the four sides of the room, three by three in a seasonal arrangement: Cancer, Leo, Virgo in one group; Libra, Scorpio, Sagittarius, in the next, and so on. We have encountered this arrangement previously on the ceiling of Hadrian's Villa at Tivoli (above, p. 176).

Several authors have expressed the opinion that in late antiquity when Christianity was gaining in power, the seasons became an important decorative motif because they were "neutral", not referring to a specific pagan deity, and therefore available for use by pagans and Christians alike. Perhaps it is truer to say that they referred to several pagan deities, and could be interpreted according to one's own viewpoint. Philostratus (Vita Apoll. VI, 19) says that Zeus can only be perceived

29 Very little seems to have been written about this monument, and to my knowledge there are no published photographs or drawings of the zodiac in it. See our Catalogue of Zodiac monuments, no. 153 p. 554.

together with the sky, the seasons, and the stars; [30] the Orphic hymns call Kore the playmate of the seasons, who bring her back to earth in spring; [30A] and Demeter, Dionysus, Pan, and the Mithraic lion-headed god are all portrayed with the seasons. Most important, we have seen evidence (above, ch. 11) that the seasons combined with the zodiac were the attributes of a god of Time, who was manifested in the great universal cycles: Aion in Greek terms, Zurvan in Iran, and in the Roman world identified with deities such as Mithras, Sarapis, Horus, and the planet Saturn.

HEROIC APOTHEOSES

The zodiac was sometimes used on a very different kind of funerary monument, that is, the scene of apotheosis, in which the central figure was depicted rising to celestial bliss. The substance of these scenes was that the protagonist had lived in a mortal body, but because of some exceptional act or circumstance had been permitted to dwell eternally among the gods. The protagonists were usually from one of two classes. In one group were kings and emperors who, chosen by the gods for the positions they were to fulfil , were thought to be of more than mortal substance even during life, and doubly worthy through service to the state. [31] Two zodiac monuments depicting the apotheosis of a Roman emperor have already been discussed, one being dedicated to Antoninus Pius and Faustina (p.185) and the other to a much later emperor (p. 189).

In the second group were the semi-divine heroes, such as Dionysus or Hercules, the offspring of a union beyween a god and a mortal who achieved deification through great physical effort in the service of

30 and 30A References noticed by Hanfmann, Seasons sarcophagus, 82, 151.

31 See for instance Cicero's Dream of Scipio (De re rep. VI), where service to the state was the highest form of service, rewarded by bliss among the stars. Silius Italicus (Punica, I, 194) takes a similar position.

men or gods. By achieving immortality for themselves, these heroes were thought to have opened the way for others and scenes portraying the apotheosis of heroic figures were used to decorate tombs and funerary objects. Two examples claim our attention.

THE SALO FLASK

A ceramic flask decorated front and back with scenes in relief was found in a Roman tomb at Salo, Italy, in 1972, and published by Vermaseren in 1976. [32] It was waterlogged and broken into seven pieces, which were dried out and restored. The flask is circular, slightly convex on each face, and topped by a short neck and two handles. A different scene was portrayed on each side, one having an episode from the mythology of Hercules, (the death of Laomedon) [33] and the other featuring Dionysus, but including the zodiac among the imagery. It is this latter face that will concern us.

The relief is composed in a circular medallion and divided into three unequal registers (Pl. 109). The lower register contains scenes of the vintage. On either side small figures use ladders to reach the ripened grapes growing over a trellis, and in the centre three figures are treading the harvested grapes in a large vat. The middle register, which occupies the greater part of the medallion, portrays the triumph of Dionysus, or Liber. The god, holding a sceptre and sphere, is standing in a carriage drawn by two panthers, a lion and an elephant. Also in the cortege is a camel with its driver, a dancer with a tympanum, and various objects, including a box decorated with elephants' tusks, perhaps holding sacred objects. A winged Victory is standing behind the god, placing a crown on his head with one hand and holding a palm branch in the other. Near the tip of the palm branch an inscription was added in

32 M.J.Vermaseren, Liber in Deum, 1976.

33 Ibid. 14-15.

relief: LIBER IN DEVM. That the gods Dionysus and Liber were sometimes assimilated in antiquity is sufficiently well-known to require no comment, but it is noteworthy that although the name Liber is used, the iconography is typically that of Dionysus, even to the vintage in the lower register.

The third register is tucked into an arc at the top right of the scene, above the zodiac, which establishes that the upper register refers to events in the sky. The space is tiny, [34] but one can easily distinguish two panthers drawing a carriage in which two people are sitting. One is evidently Dionysus, as the panthers are typically his beasts, and Vermaseren [35] reasonably suggested that the other represents an initiate, probably the owner of the grave, transported by his god to celestial bliss, thus explaining the flask's iconography in the context of its find spot. Vermaseren also noted that the words in Deum are still used with this meaning until the present day.

Traditionally, the zodiac had no physical connection with Dionysus, except that the seasons were important for growing the vine. It was not usually a part of his iconography, and possibly it is used here as a convention to explain the location of the risen soul, rather than as something specifically Dionysian. Nevertheless, Orphic texts sometimes refer to Phanes-Zeus-Dionysus, or Phanes-Zeus-Dionysus-Pan-Helios, or Helios-Zeus-Dionysus, [36] suggesting a cosmic deity controlling many phases of the universe, which would make the zodiac applicable. It is possible that the flask, which Vermaseren [37] dated to the late first

34 The medallion as a whole has a diameter of twenty-one centimetres.

35 Vermaseren, Liber in deum, 60.

36 H.Leisegang, "The mystery of the serpent", in The mysteries, Papers from the Eranos Yearbooks, 1955, 207-8.

37 Vermaseren, Liber in deum, 21.

or early second century A.D., should be considered in an Orphic context, as the medallion on the other face portrays Hercules as the liberator of Esione, and the bringer of death to Laomedon. Orphic theology seems to have linked Hercules and Chronos, and Leisegang [38] noted a comment of Damascius who, speaking of the cosmic dragon, said it is called Ageless Chronos or Unaging Heracles. Thus the portrayal of Hercules on the flask would be susceptible to interpretations such as the liberation of the soul from the flesh, and the two scenes, one of Hercules and one of Dionysus, taken together might read as a fairly complete statement concerning the fate of the soul. An investigation of the flask's iconography from this point of view would be interesting, but beyond the scope of the present study. Vermaseren pointed out that the two medallions were not moulded, but individually modelled by hand. This tends to confirm the idea that they were thematically related, but a somewhat arbitary treatment of the zodiac suggests that it played only a minor rôle in the scene. The sequence is incomplete, and the signs are apparently not in the correct order. Their tiny size makes them difficult to distinguish, especially as the clay medium demands a fairly broad treatment, but according to Vermaseren, [39] they are shown thus: Capricorn, Gemini, Aries, (? lost), Leo, Taurus, Libra, Cancer, Pisces. It seems as though the artist merely wanted to suggest the zodiac, including it as part of the background of funeral ideas, rather than as an icon essential to the theme.

THE IGEL TOMB

A tomb erected for a family of wealthy Roman cloth merchants at Igel, near Trier, has one wall decorated with a carved stone relief

38 H.Leisegang, op. cit. 108.

39 M.Vermaseren, Liber in Deum, 10.

portraying the apotheosis of Hercules (Pl. 116). The relief is rectangular, flanked on either side by pilasters divided into four carved panels, each with a figure in it. The two top panels appear to represent Hercules himself, as a naked hero brandishing a club on the left side, and on the right as a warrior, with helmet, shield and spear. The six remaining figures are anguipeds, portrayed with one hand raised as though to ward off a blow, so presumably victims of the hero's great physical strength. Between the two pilasters the zodiac encloses a circular relief in which a naked, bearded Heracles is carried aloft in a quadriga. From above he is welcomed by the outstretched hand of a helmeted Athena-Minerva. Around the zodiac are the busts of the four winds, whose function in helping the ascent and descent of souls has already been mentioned (p. 222).

The mythology of Hercules credits him with the rare achievement of descending into and returning from Hades, a feat which apparently gave him power over things of Underworld provenance. Farnell [40] mentioned that certain thermal springs were named for him and late monuments show him with a cornucopia. His aid was sought to ward off ghosts and disease, and sometimes the doorways of Greek dwellings were inscribed with the words : "Heracles of fair Victory lives here, let no evil enter".[41] He was also called the "averter of evil", but it is surely as one who could lead the deceased to celestial life that Hercules was commemorated on the Igel tomb. The zodiac surrounding him suggests that the hero was assimilated here to one of the cosmic deities, and we have seen that in certain contexts he could be regarded as a form of either Mars (above, p. 179), or Chronos (p. 358). The Igel relief suggests an

40 L.R.Farnell, Greek hero cults and ideas of immortality, 102.

41 Idem , 146.

assimilation to Chronos-Saturn, as Libra, entrance to the afterlife and the Exaltation of Saturn, was oriented to the top. This agrees with the imagery of the anguipeds, primal monsters contemporary with Chronos rather than the younger Mars.

Igel was situated in the Roman province of Gaul, an area through which Hercules was traditionally supposed to have passed on his way to Spain, and this may have influenced the choice of subject. The cult of Hercules was popular in the province, [42] and it seems that the hero had been recognized in two local Gaulish deities, Smertrios and Ogmios, [43] both slayers of monsters and noted for their great physical strength. Smertrios seems to have been a Mars-like warrior, while Ogmios was sometimes portrayed in old age, as one who had acquired wisdom, so it seems that even in this context Hercules was linked with figures resembling Mars and Chronos.

A few points concerning the Igel zodiac are worth noting. Virgo has no ear of grain, but has been portrayed as a sky goddess, perhaps Erigone, who was mentioned as the zodiac Virgin by several writers on astrology; [44] Capricorn has a short tail, and the human signs, Gemini, Virgo, Libra and Aquarius, appear to be floating, a trait we have seen on two monuments from Asia Minor (pp. 297, 311) and the zodiac coin series from Alexandria (p. 166). The Igel zodiac is thought to date from the third century A.D. which is later than the other examples, so an influence from east to west for this style of presentation remains plausible.

42 E.Thevenot, Divinités et sanctuaires de la Gaule, 1968, 117.

43 Ibid. 121 and P-M. Duval, Les dieux de la Gaule, 1976, 18, 39-40, 67, 79-82.

44 e.g., Manilius, Astronom. IV, 542.

FUNERARY CAPRICORNS

Before concluding it is relevant to add a few words about Capricorn. Relief images of the goat-fish have been discovered at a number of sites. A few were found in areas where Roman legions are known to have had camps. These reliefs were sometimes inscribed with the name of a particular legion (above, p. 160) and thus they apparently referred to army insignia. Others seem to have been associated with a temple, perhaps one dedicated to Mars or the deified Augustus, where such reliefs might well have been found. Others appear to have been designed for tombs, and it is the latter that will concern us briefly now.

Among the Capricorn reliefs described by Espérandieu,[45] he suggested a funerary origin for two. Monument 740 in volume I is a fragment carved in low relief portraying two confronted Capricorns with their feet on a disk (Fig. 77). The block, now in the Musée de Lamourguie, is believed to have been part of the soffit of a door, and Espérandieu suggested that it may have come from a tomb.

Monument 8380 in volume XIV is a fragment from the top of a stele, now embedded in the wall of St. Servius, in Maestricht. The relief takes the form of an arched niche with two people under it. Though little more than the head of each remains, Espérandieu suggested that it may have portrayed a funerary banquet. Above the niche two curly-tailed Capricorns fill a triangular space on either side (Fig. 75).

Capricorn, as we have seen above (p. 219) was the gate through which souls passed when returning from the earth to celestial regions. Macrobius explained the ideas clearly, but they must been well-known at least from the beginning of the first century A.D. as Germanicus,

45 E.Espérandieu, Recueil général des bas-reliefs de la Gaule romaine, 1907, in 14 volumes.

in his rendering of the Phaenomena of Aratus (557-9), wrote poetically that Augustus was carried into the sky by Capricorn. The idea may be older still, probably going back to Mesopotamian sources, where the gods of life were Exalted in the northern, or summer signs, and the gods of death in the southern, or winter signs, with Capricorn the Exaltation of Nergal, epitome of Underworld gods. Thus Capricorn, the gate through which the soul returns to its true home in the sky, is an appropriate decoration for a tomb.

The funerary zodiacs offer a range of types and themes, and show that for some, not just the stars in general but the zodiacal belt in particular was important in a funerary context. Almost certainly, the monuments were not just expressions of popular belief, but pertain to specific cults, though in most cases the evidence does not as yet permit a certain identification of which cults are represented.

The coffins of the Theban family have the earliest extant funerary zodiacs that can be precisely dated, though it cannot be argued with any certainty that they pre-date the Salo flask, or that the use of funerary zodiacs began in Egypt. The painted coffins, though attractive, are not great works of art, and presumably not trend-setters. Rather, we may assume that they themselves depend on earlier works, and suppose that funerary zodiacs were known at least from the mid-first century A.D., and perhaps earlier.

Chapter fourteen ART AND THE ASTROLOGER

A few extant monuments and descriptions allow us to catch a glimpse of the ancient astrologer at work. Even in antiquity astrology had its detractors as well as its enthusiastic supporters, but as space will not permit us to examine the arguments of either side, we will move directly into the certainties of the convinced astrologer, and examine some of his tools and techniques.

Nonnus (Dionys. VI, 58-73) described an old astrologer casting a horoscope for a lady who was worried about the prospective marriage of her daughter. The old man began by enquiring the day and hour of the daughter's birth, then he called a servant, who lifted down

> "a round revolving sphere, the shape of the sky, the image of the universe, and laid it upon the lid of a chest. Here the ancient got to work. He turned it upon its pivot, and directed his gaze around the circle of the zodiac, scanning in this place and that the planets and fixed stars. He rolled the pole about with a push, and the counterfeit sky went rapidly round and round in mobile course with a perpetual movement, carrying the artificial stars about the axle set through the middle."

The astrologer and his client in the description were not ordinary citizens. The client was the goddess Demeter, who was concerned about the future of her daughter Persephone, and had come to have her horoscope cast by (of course!) Astraios. The situation may be theologically absurd, but transferred to a more mundane level, it is a glimpse of what must have been a common event in ancient society: an anxious parent consulting an astrologer on the question of a family wedding.

Astraios evidently used an armillary sphere, constructed from a series of metallic rings which spun about a central axis, carrying with them representations of the sun, moon, planets and fixed stars. Cicero noted having seen such a device in Rome (above, p. 145), and ascribed it to Archimedes. Gears were used to regulate the speed of the various celestial bodies, so that each moved in correct relationship to the rest,

and even natural phenomena such as eclipses could be simulated.

Few astrologers would really have used such devices in the everyday business of casting a client's horoscope, as they would be expensive, and largely unsuitable to the purpose. The complicated geometrical relationships considered by astrologers when calculating the influence of one planetary body on another could only be adequately worked out on a flat surface.

A few objects have survived from antiquity that probably did have a practical purpose in the casting of horoscopes. They are flat, have the zodiac displayed on them in a permanent form, and could be used on a table-top, or as a table-top. The extant examples are different from each other in material and degree of complexity, as astrologers did not all follow the same methods.

DARESSY'S ZODIAC

An antique plaque in grey marble, engraved with the signs of the zodiac, was noticed by the French scholar Georges Daressy in a dealer's shop in Cairo, prior to 1901. The present whereabouts of the plaque is unknown, but while it was still in the shop Daressy took a squeeze, since preserved in the French Institute in Cairo. The squeeze shows a square plaque engraved with three concentric circles. Lines radiating from the centre subdivide the two outer rings into twelve segments. Busts of the sun and moon occupy the centre, the moon portrayed as a huntress with a bow. The second ring contains the animals of the dodecaoros, and the third holds the signs of the zodiac (Pl. 117). We shall deal with each zone in turn.

The sun and moon at the centre of the plaque perhaps served as a reminder that astrology was a divine science. No doubt the astrologers

of antiquity varied in their attitudes to their profession, but many were undoubtedly pious men with a serious regard for their responsibilities as skilled astrologers. Their task was to interpret cryptic, but divine messages, by observing greater or lesser changes in the relationships among the gods themselves. If one happened to be Christian or Jewish, the same was still substantially true, except that the stars dropped in rank to beings delegated to their authority and task by god. Firmicus Maternus, who wrote his Mathesis, a treatise on astrological method, in A.D. 334-337, regarded astrology as a gift from the Divine Mind (I, iv, 5). He dwelt at some length on the responsibilities of the discipline, exhorting the would-be astrologer to out-do in his dedication and principles the training of a worthy priest (II, xxx, 2) and warned that a shameful love of money should not be allowed to defile the divine science. In the context of such ideas the busts of the sun and moon at the centre of the plaque cannot be considered mere decorative space-fillers. Even in terms of the practicalities of astrology, the sun and moon were of primary importance in the construction of horoscopes (above, p. 292) and warrant their place on that basis.

Daressy's plaque has an unusual feature: it reserves a ring for the twelve animals of the dodecaoros. This system is known from the writings of Teucer the Babylonian, for whom Pingree[1] suggested a date in the first century A.D. Teucer apparently lived in Egypt and was influenced by Egyptian ideas, for the animals of the dodecaoros include creatures such as the crocodile and ibis, regarded as sacred in that country. Each of the animals represented one double hour of the twenty-four in a day and night, and were related to the signs of the zodiac in a specific order (Appendix A 9). Aries, for instance, always corresponded to the Cat. When estimating the influence of the hour

1 D. Pingree, The Yavanajātaka of Sphujidhvaja, II, 1978, 442-3.

in a nativity, the animal of the dodecaoros could be taken into consideration. The system is not mentioned in the majority of extant astrological treatises, but Daressy's plaque, and the monument to be considered next, show that it must have been reasonably well-known.

The zodiac in the outer ring of Daressy's plaque is roughly cut, but has a pleasing vigour and freedom, the signs following a conventional Roman iconography. It is interesting to find Aries garlanded like a sacrificial ram, a motif we shall also find on the other planispheres. Before considering how the plaque was used we will examine the other examples.

THE BIANCHINI PLANISPHERE

Fragments of a marble plaque engraved with astrological symbols was found on the Aventine in 1705 and was later acquired for the Louvre. The engraved decoration is arranged as a series of concentric circles, divided by radiating lines into twelve segments. Beginning from the middle, the inner circle contains the northern polar constellations, Draco and the two bears. A thin ring separates the inner circle from Band 1, which shows the animals of the dodecaoros. Band 2 follows another fine ring of separation, and contains the signs of the zodiac. A further separation ring introduces Band 3, which also has the signs of the zodiac, aligned to coincide with the signs in Band 2. The next separation ring, which we shall call Band 4, is filled with Greek letter-numbers, referring to the planetary Terms (Appendix A8). Band 5 contains the decans (Appendix A6), followed by another separation ring, and on the outer perimeter of the circle are the busts of the planetary deities, displayed as the lords of the decans (Pl.119). We shall deal with each zone in turn.

The constellations of the north celestial pole, the serpent Draco

and the Greater and Lesser Bears, Ursa Major and Ursa Minor, fill the zone at the centre. Draco's body twisted into a great "S" winds between the two bears, who are correctly oriented back to back and head to tail. They are portrayed in vigorous motion, each chasing the tail of the other (Manilius, Astronom. I, 304). According to the ancient belief which held that the earth is at rest while the celestial sphere is in motion, they circle constantly westwards around the axis of the universe. The Bianchini plaque and the stucco zodiac on the ceiling of the Ponza Mithraeum (above, p. 237) are the only extant antique monuments which show the bears at the centre of the zodiac, though the scheme is well-known in medieval copies of antique manuscripts.[2] The Farnese Atlas, which should portray them, is damaged in that area, and the circular zodiac on the Dendera ceiling uses the Egyptian constellation, the Foreleg (of the Bull) to mark the pole. Literary references to the Bears on the polar axis are frequent, some, noted above (p. 238), referring to the tremendous mechanical power vested in this region, which Vitruvius compared to a lathe. Beck,[3] discussing the Ponza zodiac, drew attention to a passage from the Corpus Hermeticum[4] which declares that the ceaseless motion of the Bear, who never sets and never rises, acts like an axle, transferring movement to the zodiac, and through it causing night to pass into day, and day into night. This text credits the circumpolar Bears with having prime responsibility for maintaining the movement of the universe. They do not merely circle with the circling sky, but are themselves instruments of motion, giving movement to the whole. The concept was apparently well-recognized, as a Latin author of the early first century A.D. was in substantial agreement. Manilius (Astronom.

2 see for examples, J. Vermaseren, Mithriaca II, The Mithraeum at Ponza, plates.

3 R. Beck, "Interpreting the Ponza zodiac", JMS, II/2, 1978, 120.

4 A-J. Festugière, Corpus Hermeticum, III, p. 37.

I, 278) declared that the Bears in the zenith of the sky "shifting their opposed stations about the same high point set the sky and stars in rotation".

The Bears who were thought to embody, or symbolize, the motive power of the universe, have a conceptual relationship to the iconographic figure of Aion standing in the zodiac ring, "ever turning an untiring wheel" (above, p.280), and blending one year into another. Theology under the empire apparently identified a number of deities with aspects of Time (above, Ch. 11). Beck[5] noticed a fragment from the work of Critias[6] which speaks of Chronos watching the pole with the Bears. Beck pointed out that the wording used by Critias suggests that he identified Chronos with Draco, the dragon of the celestial pole. The serpent's iconographic association with gods of Time such as the Mithraic Saturn, Sarapis, and Aion on the Parabiago dish (p. 277), makes the link between Chronos and the polar Draco of some interest. Celestial motion and Time were apparently two sides of a single idea in ancient thought, and as the movement of the universe was deemed to be dependent on forces acting through the polar axis, the notion that the god of Time must be associated with the celestial pole was inevitable. The constellations that set the sky in motion, and with it the zodiac, are an appropriate motif for the centre of the Bianchini planisphere, as through the movements of the stars the destiny of individuals was believed to be governed - and predicted.

Individually, the Bands of the planisphere are as follows:

Band I, encircling the polar constellations, preserves more than half of the animals of the dodecaoros, that is, the seven creatures from

5 R. Beck, "Interpreting the Ponza zodiac, II", JMS II/2, 1978, 115.

6 H. Diels, Die fragmente der vorsokratiker, II, 1966, ed. 384, no. 18.

the Cat to the Bull, duplicating the series on Daressy's plaque (p.).

Bands 2 and 3 display the zodiac, the images in Band 3 slightly larger to allow for the greater diameter of the ring, but the figures of both zodiacs otherwise the same. In Band 2, Aries and Taurus (garlanded like sacrificial victims), Gemini, part of Cancer, part of Libra, Scorpio and part of Sagittarius are intact. Band 3 has sustained more damage, and only Aries, with part of Taurus, Libra and Scorpio have survived. The reason for using two zodiacs side by side will be considered presently.

Band 4 states in Greek letter-numerals the number of degrees in the planetary Terms. The sun and moon were excluded from this system, which allocated the thirty degrees of each sign to the rulership of the five planets. Ptolemy (Tetrabibl. I, 20) noted that two systems were in common use, one he regarded as Egyptian, the other Chaldean. The Bianchini fragments preserve a complete set of numbers for Aries only, but the numbers correspond to the table given by Ptolemy as the System of the Egyptians.

Band 5 has the figures of the decanal gods, arranged three per sign, each governing ten degrees of ecliptic arc. Eight are preserved on an east-west axis, including all three decans of Aries and the first of Taurus, as well as all three in Libra, and the last decan of Virgo. Their clothing and physical characteristics reveal their Egyptian origin, some having the head of an animal, bird or reptile surmounting a human body.

The border of planetary busts on the perimeter of the Bianchini planisphere adds a last refinement to the complex system. The relationship between specific planets and decans is given visual expression, the two conceived as working together. Other systems omit

the Egyptian deities and the planets themselves become the decans of each sign, as in the method given by Firmicus Maternus (Mathes. II, 4, 3). In this case they are sometimes called "Faces", a name that suits the presentation on the Bianchini plaque, where the head of each planet is isolated in a nimbus. The busts are distinguished by the usual attributes: the sun has rays, the moon a crescent, Mars a helmet and spear, and so on. Only two are somewhat unusual. Venus is wearing a necklace and carrying what might be a mirror, and Saturn, who is veiled, is wearing a peculiar object on his head, like a horn or shell.

One corner of the plaque has been preserved. In it is the head of a wind god, with two small wings springing from his forehead. A sketch of the corner fragment of a similar plaque was found among the papers of the French scholar Peiresc[7] after his death, and published by Montfaucon.[8] It shows a segment of arc on which the busts of planets enclosed in a nimbus were distributed. Under these are fragments of three figures probably representing decans, but not duplicating any of the decanal images remaining on the Bianchini plaque. The corner space is filled with the winged head of a wind god, who wears an object resembling a minute set of traffic lights between the wings.
The present whereabouts of the fragment is unknown, but its iconographic similarity to the Bianchini plaque has often been remarked and it may represent another fragment of the same monument.

TWO IVORY DIPTYCHS

A pair of matching ivory diptychs engraved with astrological figures were found in fragments in a pit in the ancient city of Grand, near

7 see H. Stern, Le calendrier de 354, 179 ff.

8 B. de Montfaucon, L'Antiquité expliqué I, pl. CCXIV, suppl. I, p. XVII.

Champé Marguerite, Lorraine, France. The pieces were discovered over a period of time, about seventeen fragments coming to light in 1967, and then a further two hundred pieces some time later, allowing the two diptychs to be reconstructed and published in 1970.[9] The pairs of leaves were apparently held together by leather hinges and metal clasps, and the whole protected in an ivory cover.

The design follows a scheme similar to the one used for the Bianchini plaque. It was engraved with a fine point and touched up with red, yellow and black paint. Each leaf was divided into a series of roughly semi-circular bands, though when the two leaves are placed together the separation caused by the centre margins and hinges gives the impression that the design is oval rather than circular (Pl. 118). The zone at the centre is occupied by busts of the sun and moon. They are surrounded in the first zone by the signs of the zodiac; in the second by the planetary Terms; and in the third zone by the decanal gods. The planetary Terms are given according to the Egyptian system and the portrayal of the decans emphasizes their Egyptian character. Not all have a human body, some taking the form of serpents or other creatures.

The outer band names each of the decans in Greek. Lists of decanal names are known from manuscript sources; Hephastion of Thebes, for instance gives a Greek list, and Firmicus Maternus gives one in Latin. Bouché-Leclercq[10] compiled a chart with several variant lists of decanal names arranged side by side, but the names on the ivory diptych apparently derive from a different list again.

The corners of the two diptychs, instead of having the usual busts of wind gods, show figures in short Egyptian tunics, supported on a small

9 M.R. Billoret, "Informations archéologiques - circonscription de Lorraine", Gallia XXVIII, 1970, 308.

10 A. Bouché-Leclercq, L'astrologie Grecque, 1899, 232-3.

base (Pl. 118). The figures are in the act of genuflecting and perhaps represent lesser gods or genii attendant on the more important deities of the engraving: the sun, moon, zodiac and decans. Each has four wings, the outspread arms sketched awkwardly against the wing profiles, reminiscent of the arms on the little bronze figure from Beirut, described above (p. 231, Pl. 84). The bases portrayed under the corner figures of the diptychs, and the method of rendering the arms, suggests they were drawn from sculptures, possibly quite small figurines. The star above and below each figure perhaps indicates that they were numbered among the myriad nameless stars outside the well-known constellations.

The two diptychs were apparently designed as a pair, but exhibit the minor variations to be expected in hand-crafted articles. The difference between the two figures of Sagittarius, however, is worth noting, as in one zodiac Sagittarius is winged, and in the other the wings have been replaced by a fluttering cape.

The destruction of the diptychs was dated by the excavators to the second half of the second century A.D. on archaeological grounds. Daressy's plaque and the Bianchini fragments were not retrieved from controlled sites, so dating them has always been a difficulty. An iconographic comparison will show that they have much in common with the diptychs. In execution the images on the Bianchini plaque have a degree of sophistication lacking in the other objects, where a freer, more vigorous style was employed, but even so, it is clear that the zodiacs on each of the planispheres derive from the same tradition. Aries is garlanded in every one, and on the Bianchini plaque, Taurus also, though bulls and rams are not commonly garlanded on Graeco-Roman zodiacs. The Gemini are interpreted as Hercules and Apollo on the Daressy and Bianchini plaques, but are lost on the diptychs. The diptychs and the

Bianchini zodiac show the Balance carrier wearing a chlamys, and Aquarius has an unusual open-kneed stance on the diptychs and Daressy's plaque. The Moon's hunting bow was also given some prominence. In addition, the presence of the dodecaoros figures on the Bianchini and Daressy plaques would suggest a date after the first century A.D., if the doctrine is to be attributed to Teucer.

The characteristically Egyptian images of the decans on the ivories and the Bianchini plaque pinpoints the country of origin, while the network of iconographic similarities among the whole group suggests that they may reasonably be supposed to have come from the same environment at roughly the same date. As the Bianchini fragments were found in Rome, and the ivories in France, it is possible that Egypt may have had an export market in such commodities in the second century A.D.

HOW THE PLANISPHERES WERE USED

Textual evidence, previously unnoticed with regard to the planispheres, offers a description of how they were used. There are two accounts, each slightly different, which come from two versions of the same work, the Alexander Romance of Pseudo-Callisthenes. The fanciful adventures of Alexander the Great were translated into several languages, and although the framework of the story remained much the same, textual variations occurred between one version and another.

Alexander Romance I, 4 describes how Nectanebus, an ex-king of Egypt exiled in Macedonia, had become famous for his skill as an astrologer and was called to the palace of Olympias, the wife of Philip of Macedon. The Greek version states that after some preliminary conversation between Nectanebus and Olympias, Nectanebus reached into his garment and withdrew a small tablet made of gold and ivory that was to be

used for casting the nativity:[11]

> "Putting his hand inside (the fold) of his (garment) he brought out a small tablet (πιναχίδιον) such as the tongue cannot describe, constructed of gold and ivory, having seven stars and the horoskopos, the sun and the moon. The sun was of crystal, (κρυστάλλινος), and the moon of diamond, what was called 'Zeus' of 'aerolite',[12] Ares was of haematite, Cronos was of 'serpentine', Aphrodite was of sapphire, Hermes was of emerald, and the horoskopos was of white marble (lygdine). Olympias, amazed at the costliness of the tablet, sat down beside Nectanebus, told everyone to go away, and said to him, 'Prophet, look into my genesis and that of Philip'. He prophesied about her, that when Philip returned from the war, he would cast her away and marry another. Then Nectanebus said to her, 'Set up your birthday, and set up that of Philip'. And what more did Nectanebus do? He set up his own birth sign with that of Olympias, and falsely said to her: 'What you have said about yourself is not false. I as an Egyptian prophet am able to help you, so that Philip will not be able to cast you away'. She said, 'How can you do so?'"

So, the Greek version. The Syriac version of the Alexander Romance relates the same incident with minor variations. This time the object on which the nativities were cast was not a portable tablet carried around by Nectanebus on his person, but a bigger item of palace furniture, belonging to Olympias. I quote from the translation by E.A. Budge:

> "And when he had thus spoken to her with such like words, she straightway brought out into the midst a beautiful and magnificent table of ivory which belonged to the palace, set with splendid stones and of great value, the qualities of which the mouth of man knows not how to describe, for it was made of acacia wood and gold and silver. Three circles were fitted to it after the manner of belts. Upon the outer belt there was a representation of Zeus with the thirty-six decani surrounding him; upon the

11 My sincere thanks to Dr. A.D.H. Bivar and Ms. M. Plastira for the translation from the Greek.

12 ἀέριος = ἀερίτης λίθος hapax of Ps.Callisthenes. ‹ὁ δὲ Ἄρης αἱματίτης, ὁ δὲ Κρόνος › ὄφιτης

second the twelve signs of the zodiac were represented; and upon the third the sun and moon. Then he set the table upon a tripod, and he emptied a small box that was set (with stones) after the manner of the table upon the table, and there were in it (models of) those seven stars that were in the belts, and in that one which was in the middle, which they call in Greek 'the watcher of the hours', were set by the crafts of eight kinds of precious stones; and he arranged them upon the table with the other gems. Thus he completed his representation of the great heavens upon so small a table. He arranged a sun of crystal and a moon of adamant; and Ares, whom they call in Persian Vahrām (بهرام), of a red stone, the colour of blood; Nēbō the scribe, who is called in Persian Tīr (تیر), of an emerald; Bēl, who is called in Persian Hormazd (هرمزد), of a white stone; Baltī, who is called in Persian Anāhīd (ناهید), of a sapphire stone of a dark colour, and the horoscope of copper, which is called in Persian Farnūj (فرنوج) (sic). After he had set these in order he said to Olympias, 'Tell me, O queen, the year, the month, the day, and the hour of thy birth'; and she told him. Then Nectanebus calculated his own nativity and that of Olympias, that he might know if the stars of both of them co-incided exactly. When he saw that they were precisely the same, he said to her, 'It is fitting that thou shouldest tell me thy mind, and what thou wishest to ask, and what it is that thou desirest?'"

The two versions of this episode from the Alexander Romance not only give descriptions that recognizably correspond to articles discussed in this chapter, but even provide details of how they were used. The gold and ivory tablet carried by Nectanebus in a fold of his garment in the Greek text was probably similar to the folding ivory diptychs found in the pit near Grand, which must have been equally portable, if less expensively decorated. The heavier marble of the Bianchini plaque and Daressy's plaque, would be more suitable as permanent items of household furniture, to be set on a tripod when required for use, as described in the Syriac text. The table in the latter was made of ivory and acacia wood, decorated with gold and silver and set with

precious stones. Though more sumptuous than any of our extant examples, its nature was clearly the same. The description of the table's division into "belts", with the sun and moon at the centre, surrounded in the inner ring by the twelve signs of the zodiac, and in the outer ring by the decans, tallies exactly with the known objects. From this description it seems we may envisage our extant marble plaques set on a tripod, or some more permanent base, and used as a little table for casting horoscopes. The Syriac translation is richer in details than the preserved Greek text, so apparently such objects were well-known in the cities of Asia Minor.

To use the tables it was necessary to have the set of gems representing the celestial bodies and the horoscope - kept in a matching box, according to the Syriac version. Both texts refer a specific gem to a specific deity; and as they are in substantial agreement (except that Saturn has dropped out of the Syriac text), it seems that the type of gem for each deity was fixed by a well-established formula.

	GREEK TEXT	SYRIAC TEXT
sun	crystal	crystal
moon	diamond	adamant (another name for diamond)
Jupiter	aerolite	a white stone
Mars	haematite	a red stone
Venus	sapphire	sapphire
Mercury	emerald	emerald
Saturn	serpentine	-

The type of stone selected seems to refer to aspects of the deity's symbolism. The association of Chronos-Saturn with the serpent, for instance, has been noticed on many of the preceding pages, while the aerolite (a meteorite) of Zeus is perhaps a reference to the stone, traditionally a meteorite, swallowed by Chronos instead of the new-born Zeus. The eighth stone was to mark the point of the Ascendant, also called the horoscope. According to the Greek text it was lignite, white marble, but the Syriac text lists a metallic marker.

The Syriac text informs us that Nectanebus arranged these gems on the table, and we may logically deduce the rest. He would first ask Olympias the day and hour of her birth, then consult his copy of the "Handy Tables" to ascertain the correct positions of the sun, moon and planets for the time she gave. The stones would be distributed among the signs according to the information taken from the book. Claudius Ptolemy constructed so-called Handy Tables (mid-second century A.D.) for such use, and other examples are known by reputation.[13] Similar cuneiform ephemerids had existed for centuries, and no doubt Greek examples were also compiled in the Hellenistic period. Having laid out the basic frame-work in this way, Nectanebus could then use his skill as an astrologer to "read" the nativity, examining the aspects of the planets to each other and to the horizon, checking the Houses and the Lots, and so forth, all rapidly discernible on the clearly-marked areas of the table.

Planispheres in various materials may have been in common use among the astrologers of antiquity, as the alternative of drawing up each chart individually by hand would be time-consuming, and costly in an age before the introduction of cheap paper. Nonnus, (Dionys. VI, 20) speaks of an astrologer scratching astrological diagrams in dark dust spread over a table-top. Doubtless such methods were used, especially in the early period of astrology, but a ready-constructed planisphere would be more convenient. Some may have been drawn on a perishable material such as linen, papyrus, vellum, or wood. Then a more or less brief description of the results for the client to take home, noted on a shard or penned in more detail on papyrus,[14] would be all that was required. This would explain the laconic nature of so many extant horoscopes, when, by contrast,

13 O. Neugebauer, H.B. van Hoesen, Greek Horoscopes, 1959, 172, for further details.

14 Ibid., papyrus no. 385, 394, 431, on p. 73; ostracon no. 207, p. 52.

the astrological treatises give so much detail.

THE REASON FOR HAVING TWO ZODIACS ON ONE PLANISPHERE

The Alexander Romance provides an explanation of why the Bianchini planisphere had two zodiacs, and why a pair of diptychs were found in the pit at Grand. Nectanebus cast the nativity of Olympias, but instead of casting with it the horoscope of her husband, he laid out his own birth chart, to see if it would coincide with that of his client. To check the nativity of one person against that of another was a common practice in antiquity, especially for a prospective bridal couple, or in the case of a proposed business partnership, as in these instances reasonable compatibility is essential. According to Ptolemy (Tetrabibl. IV, 5) lasting marriages occur when the husband's moon is in harmonious aspect with the wife's sun. Two zodiacs on one planisphere, or two planispheres side by side, would allow the astrologer to make his comparison quickly and conveniently.

THE MEROE FRAGMENT

A small number of other planispheres are known in addition to those described so far. The oldest is an unpublished fragment of a circular terracotta plaque found at Meroe in the Sudan, and now in the Egyptology collection of University College, London.[15] The signs of the zodiac, separated into defined compartments, were engraved around the perimeter, but the motif at the centre can no longer be identified (Fig. 97). The fragment is a wedge-shaped piece preserving two signs, Capricorn and Aquarius. It has a pale turquoise glaze common in Meroe on wares of the Hellenistic period, but which was no longer in use by the first century A.D.[16] The division of the zodiac into equal signs, however, suggests

15 My sincere thanks to Professor H.S. Smith, Department of Egyptology, for permission to discuss the fragment in this thesis.

16 A. Kaczmarczyk, R.E.M. Hedges, Ancient Egyptian Faience, 275.

a period not earlier than the first century B.C. so a date in that century would be feasible, perhaps during the reign of Augustus.[17]

The Meroe fragment is the oldest of the extant planispheres, and indicates that such objects were already in use by the first century B.C. The arrangement is simple, showing one zodiac, without decans, planetary Terms, or other complications found on the later examples, but the flat surface and ring of signs would be quite adequate for casting a horoscope. The separation of the signs into compartments would be helpful to the astrologer. Dividing lines between the signs became a convention on Roman zodiac monuments, and it may be that the usage developed first on the planispheres. The Meroe fragment and the zodiac baldric on the torso of Mars seem to be the earliest surviving examples of equally divided signs in the arts.

THE GLASS ZODIAC FROM TANIS

The remnants of a plaque in clear, greenish glass was found during excavations by Flinders Petrie[18] in a private house in Tanis, and is now in the British Museum (BM29137). According to Petrie the plaque had suffered from smashing, scorching by fire and weathering, so that what remained of the painting and gilding was flaking away. The plaque was square, with sides of about thirteen inches. On the surface two concentric rings, divided into twelve segments by radiating lines, enclosed an inner circle. The signs of the zodiac were apparently shown

17 The Meroe fragment came to my attention through the kindness of Mr. R. Morcot, who arranged for me to see it and generously gave me the benefit of his knowledge of the Meroe material. He pointed out the value of the glaze as a dating criterion and mentioned that a portion of the other Meroe finds acquired by the university were also of the Augustan period.

18 W.M. Flinders Petrie, Tanis, Pt. I, 1883-4, 1889.

behind a series of busts in the outer ring, while the zodiac alone appeared in the second ring. The glass plaque appears to be related to the other planispheres, the two zodiacs suggesting that it had the same purpose.

THE ZODIAC STONE, TEMPLE OF TRIPHIS AND PAN

Eighteenth and nineteenth century travellers visiting the ruined temple of Triphis and Pan at Akhmin in Egypt recorded having seen a zodiac carved on one of the great stone blocks. The six descriptions and two sketches note an arrangement similar to the planispheres described in this chapter, mentioning three concentric bands, divided into twelve by radiating lines. These surround a central circle, with the zodiac in the band nearest the centre, and the decans in another. The sketches, unfortunately, show little more than the general arrangement, providing no information about the signs themselves. The rectangular block (23' x 8.5' x 4.5') had the carved and painted planisphere towards one end, the remaining space being occupied by a dedicatory inscription in Greek, which established the date of the carving as A.D. 109 (Trajan, year 12). It is thought the block may have been part of the ceiling of the pronaos. If this is so, it could not have had the practical use we have assigned to the other planispheres, but must have been a religious icon. Pan, one of the gods to whom the temple was dedicated, was another of the deities portrayed with the zodiac in works from the Roman period. The block, now missing, was perhaps buried or destroyed, but the descriptions and drawings, together with a bibliography were published by Neugebauer and Parker.[19]

The planisphere from the Temple of Triphis and Pan was dedicated

19 O. Neugebauer, R.A. Parker, EAT III, 86-89, Pl. 45.

some half century before the destruction of the diptychs found in France. The arrangement of concentric circles and radiating lines had been applied to celestial phenomena over many centuries, as we know from the Mesopotamian star lists, the so-called "astrolabes", dating from the late second millennium B.C. (Appendix A.15). The evidence indicates that the astrological planispheres were in use throughout the Roman period, and were probably known to Hellenistic astrologers early in the first century B.C.

The planispheres are a tangible link, on the one hand with the ancient astrological manuscripts setting out the doctrines, and on the other with the horoscopes that have survived in considerable numbers. Certain antique writers on astrology, anxious to improve the empirical basis of their discipline, recorded collections of horoscopes in their manuscripts; other horoscopes have been found on scraps of papyrus, and others again are known on monuments. The Nimrud Dagh Leo (Pl. 65) falls into the latter category, also the sarcophagus of Heter (Fig. 67), and the lost horoscope ceilings of Septimius Severus. A small number of others may also claim our attention.

THE HOROSCOPE GEM

A gem purchased by Professor Seyrig from a dealer in Beirut in 1967 contained a horoscope that was analysed and published by Neugebauer in 1969.[20] The gem is nicolo, a stone cut to reveal the layering: light blue over brown. It is oval and carved in relief, the design arranged in two concentric ovals surrounding an oval zone at the centre (Fig. 56). From the centre oval, which contains the figure of Taurus, radiating lines divide the two bands into seven segments. The outer band contains

20 O. Neugebauer, "A horoscope gem", AJA LXXIII, 1969, 361-2.

the heads of the sun, moon, and five planetary deities, with Greek letter-numbers beside each. The middle band matches them with a zodiacal sign. Neugebauer interpreted the bull in the centre as the Ascendant, on Taurus 11°. The other images and symbols he read as follows:

M	sun	A	near Cancer = sun in Cancer, 0°
I	moon	H	near Libra = moon in Libra, 18°
K	Saturn	Z	near Virgo = Saturn in Virgo 27°
I	Jupiter	Z	near Libra = Jupiter in Libra 17°
I	Mars	O	near Gemini = Mars in Gemini 19°
B	Venus,		near Cancer = Venus in Cancer 2°
K	Mercury	A	near Cancer = Mercury in Cancer 21°

Thus, the sun is on the summer solstice, and in near conjunction with Venus and Mercury, while the moon and Jupiter are in conjunction with Libra, and all the celestial deities are above the horizon. The arrangement is somewhat unusual and may explain why the owner wished to record his horoscope in so much detail.

From this information Neugebauer established that the date of birth for the person who had owned the ring was 23 June, A.D. 215, at roughly three hours before sunrise. The amount of information so compactly presented on the gem is amazing, but did not, unfortunately, include the owner's name.

HOROSCOPES AT ARTHRIBIS

A tomb at Arthribis in Egypt from the late second century A.D. has a painted ceiling representing the horoscopes of the two occupants, brothers named Ib-pmeny and Pa-mehit. Two zodiacs are painted side by side on a ceiling dotted with star-daisies and the whole surrounded by the thirty-six decans, many depicted as serpents. Human-headed birds

representing the ba, or soul of the two men are placed with others of their kind near Orion, a constellation identified with Osiris and mentioned in connection with departed souls in the Pyramid Texts. The two zodiacs are similar, but not identical. Aries, for instance, kneels in one, leaps forward in the other; Aquarius, portrayed as the Nile god Hapi wearing the papyrus crown, stands in one zodiac, kneels in the other. These iconographic differences, side by side on the one ceiling, indicate that the paintings were motivated less by a desire to reproduce diagrams of the stars than to express visually the destiny of two human beings, and to acknowledge the agents of destiny.

The signs on both zodiacs are oriented in a clockwise direction, but the two circles have been compressed, so that each zodiac is composed of two rows of signs that begin at the top right, moving left across the top row, then to the right across the bottom row to end at the starting point on the right. It is assumed that at any time six signs will be above the horizon, and six below, so the signs in the top row apparently represent those above the horizon, and those in the second row represent the signs below the horizon at the hour of the native's[21] birth. Ib-pmeny, then, was born when Aries was rising in the east, and Libra had just sunk below the western horizon. Pa-mehit's birth in April (the sun is in Taurus) took place approximately two hours after sunrise, with Gemini on the ascendant, and Sagittarius just below the western horizon. The pair of horoscopes provide an excellent example of how the zodiac may be adjusted in small ways to illustrate an astrological point without disturbing the correct sequence of the signs.

With the exception of Venus, the planets were shown as hawks: Saturn as a hawk with a bull's head; Jupiter as a hawk with horns; Mars as a hawk with serpents' heads; Mercury as a hawk with the head and

21 An astrological term used of the person for whom the horoscope was cast.

tail of Set. Venus was shown as a male deity with two heads, one human, one canine, facing in opposite directions, perhaps a reference to the planet as morning and evening star.

In Ib-pmeny's natal chart, the sun was between Capricorn and Aquarius, the moon in the middle of Sagittarius, Mercury in Capricorn, Jupiter in Aquarius, Venus in Pisces, Saturn in Gemini and Mars in Leo. From this information Neugebauer and Parker [22] calculated Ib-pmeny's date of birth as January 6-7, A.D. 148.

Pa-mehit has the sun, Venus and Mercury in Taurus, the moon in Gemini, Saturn in Pisces, and Jupiter and Mars on their respective Exaltations in Cancer and Capricorn. The calculated date of birth given by Neugebauer and Parker[23] was April 26-27, A.D. 141.

This chapter began with the description of an astrologer at work, and it is appropriate that it should conclude with an astrologer's expression of satisfaction in a job well done. The epitaph of a Phrygian astrologer, probably of the fourth century A.D., named Epityncanos, was published by Souter[24] in 1897. It referred to the old man's life, his work, and its rewards:[25]

"Entering the paths of the journey so long familiar,
You have arrived at the scene of the toil of your bodily eye (pupil)".
He rejoices in the spheres on their ever-rotating pivots,
(Those) shining watchers of the aerial orbits,

22 Neugebauer and Parker, EAT III, no. 72, p. 96 ff.

23 Ibid.

24 A. Souter, "Greek metrical inscriptions from Phrygia", Classical Review, 1897, 136-7. W. Ramsay, in a note on Souter's article, suggested that the Epityncanos of the epitaph was of the Phrygian family recorded in an inscription of A.D. 315 published in Ramsay's Cities and Bishoprics of Phrygia, II, 566.

25 My sincere thanks to Ms. Mary Plastira and Dr. A.D.H. Bivar for the translation from the Greek. For the original text, see p. 511.

With the sun in the midst, and the radiant moon,
From all of which comes life to articulate (humanity);
Of these comes into being, is nourished and attains old age,
The portion of life and death appropriate to everyone.

(It is celebrated that) Epityncanos was an expert in this science;
Skilled in the inspiration of unerring prophecy,
Speaking true predictions to mankind,
As to the present, and what is to come, and what will befall first.
In many cities of noble stock he has received honours
Sons he has left in no way inferior (to himself).
By his virtues he has searched out the measures and limits of
the universe,
(and now says) "I have come to the darkness which is the due
fate of all".

Epityncanos was evidently proud of his place in society, and of his professional achievements. He seems to have had absolute faith in astrology as an exalted science, capable of giving an "unerring prophecy". His faith, as we have seen, was shared by many in antiquity.

THE SPARTA ZODIAC MOSAIC

A recently discovered mosaic portraying Helios and Selene at the centre of the zodiac was published [26] after the completion of this chapter. It was found on the floor of a room with an apsidal extension, thought to be a dining room, in a luxury Roman villa in Sparta, probably dating to the fourth century A.D. The ring of signs encircling the busts of Helios and Selene, was enclosed in a square, and the winged heads of wind gods were placed in the corners (Fig. 64). The iconography is conventional. In its luxury setting it seems to have a purely decorative purpose, but conceptually it is closer to the astrological planispheres than to any of the other categories of zodiac we have studied. Indeed, using the mosaic for casting a horoscope would be perfectly feasible, and one could imagine it exploited as a source of entertainment and conversation at a dinner party. As a parallel, it is perhaps worth citing the dish served by Trimalchio to his guests at a dinner party attended by Petronius (Satyr. 35). On that occasion the zodiac was portrayed on a plate, each sign being overlaid by suitable food, in a direct or punning allusion to the sign's name. Trimalchio's humour proved somewhat vulgar, but the Sparta mosaic could have provided a source of discussion at any level suitable to the guests. One is reminded of the dinner party conversations, ranging from learned to frivolous, described by Macrobius in the Saturnalia, a work written in approximately the same period as the Sparta mosaic was laid.

26 The mosaic was found in rescue operations in 1975 in a building plot on Odos Triakosion and published by G.Steinhauer among excavation reports in the Chronika section (74-77), 79-80, of Archaeologikon Deltion 30, 1983 (in Greek). The reports were summarized in English by G.Catling in Archaeological Reports for 1983-4, the Sparta zodiac being mentioned on p. 27. I am grateful to Dr. Bivar for bringing the mosaic to my attention.

PART V

LATE ANTIQUITY

PART V. LATE ANTIQUITY

Chapter fifteen. PALESTINE: THE SYNAGOGUE ZODIACS

The discovery of new archaeological material can force the reassessment of modern notions concerning the distant past. A striking example of this has been the discovery in Palestine between 1920 and 1972 of six synagogues in which the zodiac was pictured in mosaic on the floor, and a seventh in which a mosaic pavement had a Hebrew inscription listing the names of the zodiacal signs. Until the first of these mosaics was found at Na'aran in 1921, the idea that they might exist would have been considered ludicrous. Synagogues were regarded as traditionally aniconic, except for inanimate symbols such as the menorah. For modern ethics the zodiac is pagan, and for this reason alone would not have been expected in a synagogue. The mosaics at Na'aran, to be described presently, had been attacked in antiquity by iconoclasts, and initially scholars thought that the synagogue may have belonged to a Jewish-gnostic sect, whose doctrines were outside strict Judaic teaching. The discovery of another zodiac mosaic, this one in almost perfect condition, on the floor of a synagogue at Beth Alpha in 1929, followed by a third at Husifa (Isfiya) in 1933, a fourth at Yafa in 1953, a fifth at Hammath-Tiberias in 1961, and a probable sixth at Horvat Susiya in 1972, made that theory untenable, and opened the debate on why the zodiac had been used on synagogue floors. The Hebrew inscription at 'En Gedi, listing the names of the signs, was found in excavations in 1970-71. A strict chronological sequence for the mosaics has not been established, but stylistically the examples from Hammath-Tiberias and Yafa are nearer to antique art, and therefore probably older, than the mosaics from Beth Alpha, Na'aran and Husifa, with the inscription from 'En Gedi probably at the end of the series.

HAMMATH-TIBERIAS

The whole synagogue was paved with mosaics, mainly in abstract patterns,

in some thirty colours. Figural designs were reserved for the nave, where the mosaic was divided into three panels: that closest to the chamber for the Torah shrine depicting a Torah shrine; the centre panel occupied by a zodiac; and at the further end a panel in which two lions flanked a Greek inscription honouring donors. Similar tripartite schemes were repeated in the other synagogues with zodiac pavements (Figs 78, 79, 82).

The zodiac in the centre panel was well-preserved except for a strip of damage where a wall had been built across the mosaic in a later period, destroying Cancer and one of the Gemini, as well as Sagittarius and a portion of Scorpio. The ring of signs encloses a central medallion portraying a frontally-posed sun-god, evidently standing in his solar chariot, though the vehicle and horses have been almost entirely lost, the mane of one horse and the hoof-tips of another being all that is left. The youthful Helios is wearing a rayed crown, his head surrounded by a nimbus. His right hand is raised in a gesture of benediction, his left holds a large orb and he is wearing a red cloak fastened at the right shoulder over a long-sleeved tunic (Pl. 121).

The twelve signs, separated into compartments by a scrollwork frame, have a lively individuality. Aries is a fat-tailed sheep, Taurus a humped bull, and Capricorn is elegantly spotted. The human signs have been rendered as Graeco-Roman images, though Aquarius is pouring water from an unusually long-necked amphora, Virgo carries a torch, and the figure holding the scales of Libra bears a sceptre and crown. The imagery suggests the iconography of Aion. The crowned and sceptred figure bearing the Scales is Chronos-Saturn on his Exaltation in Libra, the image corresponding to the mosaic from the triclinium at Carthage,(p. 269), the figure of Aion on the Parabiago dish (p. 277), and the figure of Libra on the Nabatean seal impression from Rabbath-Moab (p. 329). The image of Virgo reinforces the impression. Her torch suggests that she was interpreted as Kore, said in Alexandria to be the mother of Aion (p. 167). Presumably, the design was not originally

designed for a synagogue, but copied by the mosaicist from an earlier model.

The zodiac ring is set in a square frame, the triangular spaces left at the corners occupied by the seasons. They are shown as maidens crowned with floral wreaths, or veiled in the case of winter, and having seasonal attributes. They are without the wings portrayed with the seasons at Beth Alpha, but are richly jewelled with necklaces and earrings, a trend that was to continue.

Human and animal figures throughout the composition are softly modelled to give an illusion of three dimensions, so that the work is stylistically and iconographically related to antique art. Avi-Yonah [1] has suggested that the mosaicist may have come from Antioch, the seat of an important school of mosaicists. The artist was perhaps more familiar with Greek than Hebrew. The seasons and zodiacal signs were captioned in Hebrew characters, but the name for Aquarius was mistakenly written from left to right, instead of from right to left.

For the zodiac to be used at Ḥammath-Tiberias is particularly interesting. Ḥammath and Tiberias were originally two separate walled cities, united in the first or second century A.D. In the third century A.D. Palestine's main Rabbinical academy was in Tiberias, and the dual city became the spiritual centre for the Jews of Palestine and the Diaspora until the end of the Patriachate in 429 A.D. Archaeological evidence [2] as well as the stylistic rendering of the mosaic suggest a date in the fourth century A.D., that is, the mosaic was laid when the city of Tiberias was in its most influential period in Jewish religious studies. Presumably, in such a setting the zodiac would represent acceptably orthodox ideas. We shall return to this problem after describing the remaining synagogue zodiacs.

1 M.Avi-Yonah, "La mosaique juive dans ses relations avec la mosaique classique", in La mosaique Gréco-Romaine, 1963, 325.

2 M.Dothan, "The Synagogue at Ḥammath-Tiberias", in ASR, 1981. The zodiac was in the synagogue's Level 2A. Dothan also noted that the language of the Aramaic inscription was consistant with the Galilean Aramaic of the third to fourth centuries A.D.

YAFA

The mosaic floor at Yafa is fragmentary, but enough remains to establish the arrangement, and to indicate the style of the representations. The zodiac was in the nave, and consisted of a large circle surrounded by a series of twelve smaller medallions, framed and linked by interlacing bands (Figs 80-81). The floor was excavated by Sukenik who, according to Goodenough,[3] initially identified the design as a zodiac, then later changed his mind, suggesting that the medallions contained animals representing the twelve tribes of Israel. Among the scanty fragments only two medallions have recognizable images. One almost intact portrays a bull, but it is damaged above the bull's back where the caption would have been. In the next medallion the head and forefeet of the bull's neighbour have been preserved, apparently a ram. Above its head is the end of a word that would be consistent with the Hebrew rendering of Aries.[4] The ring of medallions is enclosed in a square, and fragments from the triangular space at the one remaining corner shows a vegetal scroll inhabited by a tiger. Vegetal scrolls, often spilling from an amphora, were popular decorative motifs in Palestinian mosaic pavements.

Goodenough, commenting on Sukenik's interpretation of the design, was inclined to accept that the floor had portrayed a zodiac. Saying that he did not know why Sukenik had changed his mind, he pointed out that the animals in the fragments do not conform to the usual order of the animal symbols of the twelve tribes. They are, however, absolutely standard representations of the zodiacal signs, their arrangement into a chain of medallions surrounding a central circle expressing the continuity of the months and seasons. Sukenik may have been embarassed at finding yet another zodiac, once thought an unacceptable subject for synagogue art.

The mosaic at Yafa probably dates from the early to mid fourth century A.D. The animal figures, although stylized to suit the medium, have been

3 E.R.Goodenough, Jewish symbols, vol. I, 217-8.

4 Ibid., with some discussion of the letters.

rendered in naturalistic poses, and filled in with tesserae of graded colours to suggest some modelling of the forms, so that this work, like the zodiac at Ḥammath-Tiberias, is still within the orbit of antique art. The zodiacs at Beth Alpha, Na'aran, and Ḥusifa, although possibly created little more than one hundred and fifty years later, are stylistically very different.

BETH ALPHA

Mosaic pavement was laid throughout the synagogue, but as usual, the pictorial subjects were reserved for the nave. They were arranged in three panels and surrounded by a wide band of decorative border, with an inscription near the entrance. The zodiac was in the centre panel, the largest of the three. It was portrayed as a wheel, with the sun's chariot at the hub, and radiating spokes forming the divisions between signs. The two main circles were defined by a continuous double scroll, similar to the rings at Yafa, though the decorative treatment of the spokes varies. The whole is set in a roughly square panel, with the busts of seasons occupying the triangular spaces at the four corners (Pl. 125).

The image of the sun in the central medallion has been reduced to its most essential elements. Only the sun's head, wearing an elaborately rayed crown, rises above the front panel of the chariot, which conceals the rest of the body. A team of horses are indicated by four heads and four pairs of forelegs. The chariot wheels, essential to a vehicle in motion, are shown on the base line at right angles to the direction of travel. The horses' foreheads are ornamented with crescents, perhaps part of the harness, from which reins swirl back to the chariot. The artist has shown little concern for anatomical details. The horses' knees and ankle-joints have disappeared, leaving flexible, rubbery legs that give the impression of pounding forward in a continuously wavering, broken motion. The celestial location is established by the moon and a scattering of stars, most pressed to the bottom of the field, perhaps to indicate that the stars will vanish with the

rising sun. The artist has filled the space with an energetic and pleasing combination of shapes and colours, but the rayed crown, the horses' heads and legs, and the chariot wheels are the symbolic ingredients of an idea so familiar that the viewer's imagination could be relied upon to supply the rest.

The cycle of signs is equally schematic. The forms are outlined and filled in with flat colours, the modelling eliminated in favour of linear decoration. Some of the signs correspond to the cycle at Hammath-Tiberias, though there are interesting differences. Aries is a fat-tailed sheep, Taurus a humped bull. The Gemini, shown as children, appear to be Siamese twins, as the artist has outlined the two bodies in one form. Cancer is a crab, Leo a lion with strangely curving legs and exaggerated claws. Virgo is enthroned and jewelled, and wearing red shoes, which according to Sukenik [5] were a mark of nobility. The figure carrying the balance, obligingly standing on one leg to allow space for his burden, is wearing a short tunic and a high boot, perhaps a military costume. Next is the scorpion, then Sagittarius, no longer a centaur, but an archer in human form. The Hebrew caption shows that the changed image corresponds to a changed name, as the sign is Qyšt, the Bow, emphasizing the weapon rather than the one who fires it. The next sign, Capricorn, is the only one to have suffered substantial damage, as the head and forefeet alone are preserved. Aquarius, too, has undergone a change, the emphasis having shifted from the being who carries the water to the vessel in which it was carried, though this is no longer the Graeco-Roman amphora seen at Hammath-Tiberias. In Hebrew the sign is dly, the Bucket. The Beth Alpha zodiac pictures the sign as a man drawing a bucket of water from a well, an image that in later times would be recognized as a standard symbol for Aquarius throughout the Islamic Middle East. It is notable that a bucket also appeared with the Nabatean Aquarius at Khirbet Tannur (p. 328). The last sign at Beth Alpha

5 E.L.Sukenik, The ancient synagogue of Beth Alpha, 1932, 37.

is Pisces, shown as the usual pair of swimming fish.

The seasons in the four corners are rendered as highly stylized female busts. The necks are excessively elongated, as they are on the human figures of the zodiac. The faces, although varying somewhat in outline, have been rendered with a constant linear formula: a single line forms the two eyebrows and the nose; the mouth is a small rectangle; the eyes are well-spaced and widely opened, with a dot at the centre. The seasons are winged and decked in jewellery and ornate headdresses, with their hair tucked out of sight. All have seasonal attributes, some not easily recognized, but each bust has a caption, which describes the season by the name of a typical month: the season of Nisan; the season of Tammuz; the season of Tišri; the season of Tevet.

At Beth Alpha the seasons have been misplaced by approximately one-quarter of the cycle, so that spring, with the bird and the shepherd's crook, has been placed over Leo and Virgo, signs denoting months of summer. The bust of summer is over Scorpio, a sign of mid-autumn; the season of autumn is placed over the winter signs, and the winter season over the signs of spring. Each bust has wings, treated as flat shapes, but with a jaunty double terminal jutting out to the left and right at the bottom, perhaps representing the longer feathers. Winter is virtually without attributes apart from her jewellery. Sukenik [6] made an interesting point by noting that winter's lack of attributes does not correspond to the environment of Palestine, and especially not to conditions in the Jezreel Valley, where the mosaic is situated. The mosaicist was evidently following an iconographic pattern established for a region elsewhere, a point to which we shall return presently.

Inscriptions at Beth Alpha include one in Greek which gives the names

6 E.L.Sukenik, op. cit., 39.

of the mosaicists, Marianos and his son Hanina. [7] Another, this one in Aramaic and unfortunately partly destroyed, mentions towards the beginning the name of the Emperor Justin [8] in what was evidently a date formula. On other archaeological evidence from the synagogue Sukenik took this to mean Justin I (A.D. 518-527), placing the construction of the mosaic pavements in his reign, but suggesting that the synagogue itself was somewhat earlier.

The preservation of the mosaics was probably due to the earthquake which destroyed the building sometime during the sixth century A.D., covering the mosaics before the onset of iconoclasm and ahead of the invaders that ravaged the area in later centuries.

NA'ARAN

The synagogue at Na'aran contained the first of the zodiac mosaics to be discovered. It was accidently exposed by a shell explosion in 1918, and was excavated by the École Archéologique Française in 1921.

The nave mosaics were divided as usual into three panels; one depicting the Torah shrine, one with the zodiac, and one with geometric designs enclosing medallions filled with birds and animals. Around the whole was an elaborately interlaced border (Fig. 82). Almost every portrayal of a living creature throughout the mosaic had been attacked by iconoclasts in antiquity. In some cases they had removed broad areas of mosaic, and at other times had picked daintily within the outlines of the figures. In each case the damaged portions had been carefully repaired, usually with cement.

The arrangement of the zodiac corresponds to the examples at Ḥammath-Tiberias and Beth Alpha. The image of the sun in his chariot is surrounded by the cycle of the signs, and the busts of the seasons fill the corners of the outer square. As usual, all were captioned.

7 E.L.Sukenik, The ancient synagogue of Beth Alpha, 47.

8 Ibid., 45, 57.

The sun in the central disc wears a rayed crown and a starry mantle, and holds a furled whip in his left hand. The horses drawing the chariot are almost obliterated, but the two chariot wheels, still at right angles to the direction of travel, are emphasized. Remains of the signs are meagre, but a powerful outline sweeping over the bull's rump, into the small of the back, and over the shoulder hump, suggests a more realistic rendering than at Beth Alpha, as does the lion's one remaining claw. The twins have disappeared entirely, as has Sagittarius, Capricorn and Aquarius. There are traces of Virgo and Libra, who appear to be taller and thinner than at Beth Alpha. Virgo has her hand upraised in a gesture of prayer. Her arms are well-formed and have definite elbows, unlike the somewhat rubbery limbs at Beth Alpha (Fig. 89). Only two of the seasons remain. They are schematically portrayed, with little concern for the shape of the arms or the number of fingers, and appear to be stylistically unrelated to the figures of the zodiacal signs (Fig. 88). Sukenik [9] noted that the seasons were shown in incorrect positions, the bust representing autumn near the spring signs, and the bust of spring near the signs of autumn. According to Avi-Yonah,[10] this is because the signs progress in a clockwise direction, but the seasons are in anticlockwise order. Thus the mosaicist probably began correctly with winter, but moving in the wrong direction confused spring and autumn. This might easily happen if the mosaicist copied the zodiac and seasons from two different models. The signs at Na'aran retain some naturalism, their degree of abstraction lying between that of the images at Ḥammath-Tiberias, and those of Beth-Alpha, but the seasons are stylistically different, representing a freer, more abstract tradition.

HUSIFA (Isfiya)

This is the smallest of the synagogue zodiacs, having a radius of 138 cm, within a square of 2.76 m. per side. Pictorial material was reserved for

9 Ibid., 38.

10 M.Avi-Yonah, "A sixth-century synagogue at 'Isfiya", QDAP, III, 1934, 126.

the nave and divided into the usual three panels, of which the zodiac occupies the one furthest from the portrayal of the menorahs (Fig. 79). The third panel was evidently filled decoratively with fruiting vines.

The greater part of the zodiac is lost, but fragments of five signs have survived. Sagittarius is a nude male standing with his bow raised to the right. Capricorn is represented by fragments of two horns, Pisces by a fin and a piece of the tail, Aries by the tail and hind legs. Aquarius is preserved in a larger portion. Again the emphasis is on the vessel rather than the carrier, and the sign is shown as an amphora with a fluted body, from which green water is flowing. The amphora, a reference back to an antique form, occupies the full space, and the water carrier is not shown.

The head of a season has been preserved in one corner. She is wearing a necklace and an elaborate headdress and around her are pomegranates and ears of corn. M.Avi-Yonah [11] has suggested that she represented autumn, though this indicates that the seasons at Ḥusifa are also misplaced, as she is shown near the spring signs.

It was not, perhaps, iconoclasts who were responsible for the destruction at Ḥusifa, as the season's face has been left intact. The features are as conventionalized as the faces at Beth Alpha, but a different formula has been used. The eyebrows are joined to form a continuous double curve across the brow, and the two strokes forming the nose drop from the corners of the eyes (Fig. 87). It is a linear style, possibly stemming from a manuscript tradition.

HORVAT SUSIYA

Gutman, Yeivin and Netzer [12] excavating the synagogue in 1971-2 noted evidence of a polychrome mosaic. It was divided into panels, one of which

11 Ibid.

12 S.Gutman, Z.Yeivin, E.Netzer, "Excavations in the synagogue at Ḥorvat Susiya" in ASR, 123-128.

may have depicted Daniel in the lion's den. The centre panel contained a large circle divided into segments "probably for the signs of the zodiac".[14] Eventually it was replaced by a geometric pattern with a rosette at the centre, and only a small part of the circular border survives.

In addition to the mosaics, two reliefs should be mentioned. A fragment found at Kefar Bir'im was identified by Sukenik [15] as part of a zodiac, dating no later than the fourth century A.D. The fragment is damaged, but Sukenik believed he could distinguish Virgo, Taurus, Capricorn (as a goat) and Sagittarius . In 1956 Ruth Amiran[16] expressed doubt that the relief was a zodiac, saying that Sukenik's centaur-archer looked more like a deer, and that she could see no trace of a bow. Miss Amiran's belief that the zodiac was always portrayed as a circle is incorrect, as we have seen in the previous pages. Nevertheless, I too doubt that the fragment is part of a zodiac. If the figures do represent the signs the arrangement is unusually disjointed, demanding that the sequence of signs must break three times to begin afresh on the right. The blocks containing shells and meander patterns interspersed between the images are without parallel in other examples.

A second relief, this one found at Capernaum and showing only one sign, is completely unambiguous. Capricorn, represented as a goat-fish, was depicted with two eagles holding a wreath. One wonders if it was part of a funerary monument (above, p. 361).[17]

'EN GEDI

One more synagogue mosaic relates to our study, though this time the signs were not depicted, but listed in a mosaic inscription, discovered in

14 Ibid.

15 E.Sukenik, The ancient synagogue at Beth Alpha, 57.

16 R.Amiran, "Ornamental relief from Kfar Bar'am", IEJ, VI, 1956, 240.

17 L.Levine, "Ancient synagogues - a historical introduction", in Ancient synagogues revealed, plate, without comment, on p.7.

1970. [18] The inscription is of considerable length, though we will be concerned only with the first seven lines, which I give here from the translation by L.Levine: [19]

1 Adam, Seth, Enosh, Kenan, Mahalalel, Jared,
Enoch, Methuselah, Lamech, Noah, Shem, Ham and Japheth.
3 Aries, Taurus, Gemini, Cancer, Leo, Virgo,
Libra, Scorpio, Sagittarius, Capricorn, and Aquarius, Pisces.
5 Nisan, Iyar, Sivan, Tammuz, Av, Elul,
Tishrei, Marheshvan, Kislev, Tevet, Shevat
7 and Adar Abraham, Isaac, Jacob. Peace.

The remaining ten lines of the inscription need not detain us. Levine explained that lines one and two list the names of the thirteen ascestors of the world, taken from I Chron.I, 1-4. These are followed by the names of the zodiacal signs, then the names of the months, and finally, the names of three Biblical patriarchs, closing with the blessing "Peace". The inscription is in Hebrew.

Following the discovery of the mosaics, scholars [20] noted that the names of the zodiacal signs and the corresponding months were recited in certain ancient synagogue chants (piyyutim). According to the Encyclopaedia Judaica, [21] in former times a piyyut based on the twelve signs might be used to accompany the prayer for rain. Fragments of such piyyutim were found in the Cairo Genisa, and it seems that the ʿEn Gedi inscription was derived from an ancient example.

The suggestion of Y.Yaholam [22] that the mosaic depictions of the zodiac may have been intended to give visual expression to the synagogue piyyutim is supported by a peculiar use of the conjunction "and" (vav), found in

18 D.Barag, Y.Porat, E.Netzer, "The synagogue at ʿEn Gedi", in ASR, 116-119.

19 L.Levine, "The inscription in the ʿEn Gedi synagogue", in ASR 140-145.

20 L.Levine, (ibid.) mentions an article in Hebrew: Y.Yahalom, "Traces of Greek culture in the Ancient Hebrew piyyut," in Proceedings of the sixth world congress of Jewish studies, 3, 1977, 203-213.

21 Vol. 16, col. 1191.

22 Op.cit., in Hebrew; mentioned by Levine, "The inscription in the ʿEn Gedi synagogue", in ASR, 142.

common in the ʿEn Gedi inscription and on the zodiac mosaics. At ʿEn Gedi, instead of joining the last of the zodiacal signs (Pisces) to the list with the conjunction "and", it has been placed before the second last name, "and Aquarius, Pisces". Significantly, on those two zodiac mosaics where captions giving the name of Aquarius have survived, the name was preceded by the conjunction "and", a senseless appendage if the name is merely a caption intended to identify a picture. Unless the names were to be chanted, or else meant to remind the faithful of the piyyut, the "and" is meaningless.

According to Levine, [23] A.Mirsky suggested that the unusual placing of the conjunction alludes to the existance of two competing traditions, each listing Aquarius and Pisces in a different order. The order of the signs, however, had been established for a millennium or more when the synagogue mosaics were laid, and had probably been well-known in Palestine for at least three-quarters of that period. If a competing tradition referring to some local idea was introduced, it has not effected the order of the signs in any of the extant zodiac floors.[24] The unusual placing of the conjunction was more feasibly the result of the poet's search for rhythm and euphony when the piyyut was being composed.

The idea behind the piyyut - that of reciting the names of the zodiacal signs - is of some interest and merits consideration. Far from indicating traces of Greek culture, as Yaholom suggests in the title of his article,[25] it rather suggests the influence of Babylonian practices. Literary sources preserve no mention of the repetition of star-names in Greek liturgy, but our sources do show that this occurred in Babylonia.[26] Clearly, the Judaic faith is different from Babylonian astral religion, but ideas

23 Levine, quoting A.Mirsky, "Aquarius and Capricornus in the ʿEn Gedi inscription", Tarbiz, 40, 1971, 376-384 (in Hebrew).

24 The position at Yafa and Horvat Susiya cannot be ascertained as the signs in question are lost.

25 See note 20 on p.

26 A.Ungnad, "Besprechungskunst und astrologie in Babylonien", AfO XIV 1944, 282.

already endowed with religious sanctity, transferred and reinterpreted, adjust easily to a different faith. Contacts between Palestinian Jews and the cities of Mesopotamia throughout antiquity are well attested. The Exile to Babylonia recorded in the Bible occurred in the sixth century B.C., and when Achaemenid permission was given for Jews to return to their homeland, some chose to remain where they were. Jewish settlements in Mesopotamia continued to flourish under the Seleucids, the Parthians, and the Sasanians, and were generally treated with toleration. The walled city of Nehardia, almost surrounded by a bend in the Euphrates, springs to mind. Babylonian Jews maintained contact with the centre of Jewish faith in Palestine, and contributions were collected for the Temple in Jerusalem. Because of its strong defensive position, Nehardia was used as a treasure city, where contributions were stored prior to transmission to Jerusalem (Josephus, Antiquit. XVIII, 311-13). Jewish scholars evidently respected Babylonian skills in astronomy and calendric research, for according to the Encyclopaedia Judaica[27] Hebrew month names changed after the Exile. Sources before that period record month names of Canaanite origin, but post-Exilic sources use names related to the Babylonian months.[28] In the period between the Exile and the laying down of the synagogue mosaics, other elements of Babylonian scholarship had become known. An interesting example is the practice of Jewish astronomers to divide the hour into 1080 parts (chelakim), equivalent to the Babylonian unit of measurement known as the "barleycorn" (15° of celestial arc = 1 hour = 1080 barleycorns).[29] Other ideas concerning the zodiac and astrology would reach Palestine by the same route. The Graeco-Roman contribution had also been substantial, but by the fifth and sixth

27 Vol. XVI, col. 725, under "year".

28 Hebrew month names are listed in the ʿEn Gedi inscription, p. 516

29 Neugebauer, "The astronomy of Maimonides and its sources", Hebrew Union College Annual, XXII, 1949, 325.

centuries A.D. the influences seem to have been predominately from the east, from Syria-Babylonia and Sasanian Iran. These influences, as we shall see presently, are clear in the iconography of the synagogue mosaics.

The zodiac piyyutim were written for use in the synagogue, and remained part of the collection of chants for centuries. We may judge that in their day they were respectable and orthodox. The same is true of the zodiac mosaics. All were given a prominent position in the nave, and it is notable that the iconoclasts who chipped away part of the mosaic at Na'aran seem to have had no quarrel with the zodiac as such, but merely with the images that it contained. The framework of the zodiac and the names of the constellations were carefully preserved, and on many signs enough outline was left to allow instant recognition (Fig. 82). The fact that the earliest of the extant zodiac floors was found at Ḥammath-Tiberias, the very centre of Rabbinic studies, is indicative of orthodoxy, as is the fact that they are not confined to one locality, but distributed throughout the country. They were not the work of a fringe group, but in the period between the fourth and sixth centuries A.D. expressed mainstream ideas.

Mosaic pavements with pictorial designs were used in synagogues by the mid-fourth century A.D. Avi-Yonah [30] noted two early comments on the practice. The Jerusalem Talmud records that from the time of Rabbi Abun (mid-fourth century A.D.) pavement designs were not forbidden, and an Aramaean translation of the Bible, with a commentary, states that it is permissable to pave sanctuaries with images, but that they must not be adored. The reaction against images seems to have hardened by c.A.D. 550, but in the preceding two centuries the zodiac and depictions from sacred stories were evidently acceptable in synagogue art.

The reason for depicting the zodiac in late antique synagogues is an

30 M.Avi-Yonah, "La mosaique juive dans ses relations avec la mosaique classique", in La mosaique Gréco-Romaine, 326.

intriguing question. Judaism, Christianity and Islam acknowledged God as One and Supreme, yet although the existance of no other god is admitted, all three accepted the idea of intermediate Beings, superior to man but less than god. In this category were placed the angels, or the seraphim and cherubim. Ancient Mesopotamian religion had envisaged the great gods ruling like earthly monarchs, having a household of lesser deities to send as messengers, act as chamberlains, or attend to other affairs. A similar concept is apparent in Graeco-Roman mythology with regard to Zeus-Jupiter. The God of Judaism, Christianity and Islam, too, was envisaged as ruling from a heavenly court, where thousands of Beings were instantly ready to do his bidding. Among the superior Beings were the stars, which came to be regarded as Powers under God, especially the planets and zodiacal constellations, for together with the sun and moon, control over human destiny was vested in them, though over-riding supremacy always belonged to God. The Encyclopaedia Judiaca [31] notes that the majority of the Talmudic sages believed in the decisive rôle of the celestial bodies in determining human affairs. Astrology as a science was accepted in principle, even when prognostications were treated with some scepticism. The basic doctrines were not doubted, though the rabbis could be dubious of the astrologers' ability to fully grasp all the complex factors.

The practice of repeating the names of the signs in a synagogue chant indicates that they were regarded as important and beneficial powers. Antique fashion lent a zodiacal interpretation to certain aspects of religious usage. Avi-Yonah [32] notes that in sixth century liturgical texts the twenty-four classes of priests were each related to a zodiacal sign, and Josephus (Wars V, v, 5) says that the twelve loaves on the table refers to the Wheel of living creatures, that is, to the twelve signs, indicating that they were regarded as acceptable and of good omen.

31 Vol. III, col. 789.

32 Avi-Yonah, "La mosaique Juive" in La mosaique Gréco-Romaine, 326.

A belief in astral determinism would not in itself be enough to account for the presence of the zodiac among the sacred symbols in a synagogue, but a persuasion that the signs were God's agents in man's destiny, and the bringers of His gifts of the fruitfully changing seasons, as well as symbolizing the yearly cycle of the liturgical calendar, does help to explain their presence. The concept of the soul's ascent to heaven after death, well-known in Graeco-Roman pagan texts, is also an important tenet in monotheistic religions, and an allusion to the soul's ascent to God may have been implicit in the zodiac portrayals. Collectively, these ideas endow the zodiac with a sanctity that can explain its presence in a place of worship.

Levine [33] noted the prominence given to the sun in the central medallion at Beth Alpha, Ḥammath-Tiberias, and Naʿaran, and drew attention to the Sefer Harazim, the Book of Secrets, compiled by a Palestinian Jew in the Byzantine period. It was a book of practical magic, listing the angels in the various heavenly spheres who might be petitioned on matters such as healing, winning a lover, punishing an enemy, gaining wealth or power. One merely needed to know the name of the proper angel, and the requisite formula and preparation. A possible request was to see the sun at night, at which time any request might be presented, and one could learn the secrets of the universe. During this experience it was necessary to recite in Greek a prayer beginning with the words "I adore you Helios, who rises in the east", and included phrases such as "faithful guardian", and "he who rules the heavenly byways". Levine pointed out that according to this concept the sun functioned as a kind of super-angel, capable of affecting human life. One would guess that the formulae in the Sefer Harazim were descended from earlier pagan sources. The concept of Helios as a "super-angel", or in pagan terms, a god, is implicit in astrological doctrine, where the sun's influence is regarded as a key factor in human destiny. Levine's description

33 L.Levine, "Ancient synagogues - a historical introduction", in ASR, 9.

of the sun as a "super-angel" is possibly quite near the ancient concept. He was regarded as one of the most powerful of the Beings who carried out God's bidding, and one whose unique function made him visible to mankind.

We shall see in the Conclusions, (pp. 435-439), drawn from this study as a whole, that a primary function of the zodiac as an icon was to symbolize the concept "eternity". Clearly, this symbolism was absolutely appropriate for the Eternal God of the monotheistic religions. The zodiac in the synagogues, despite its ancient pagan associations, had been converted to a subtle and complex symbol, suitable for the adornment of a sanctuary of the One God.

Stylistically, the zodiacs reflect changes that occurred in the arts in late antiquity and are indicative of changing emphases in the political and cultural affiliations of Palestine. Ḥammath-Tiberias, the earliest example, is still within the orbit of classical Graeco-Roman art. Male figures of the signs Aquarius, Libra and Gemini are shown in antique nudity, and Helios is wearing the Roman paludamentum. The seasons with their attributes and garlanded heads could be paralleled in antique works, and have a naturalism of pose and expression. Nevertheless, details such as the jewellery worn by the seasons suggest a distinctively Middle Eastern milieu. The Beth Alpha zodiac is stylistically very different. Naturalism no longer matters. The forms have been flattened, the body length compressed, the limbs distorted at will, and nudity banished. Clothing and body structure are radically simplified, so that although the zodiac is quite large, having a diameter of 3.12 metres, the figures appear to have been designed as decorative minatures for a manuscript. The linear style, suitable for outlining with a pen and filling in with coloured inks, is evident in the faces, where a simple formula has been consistently applied, forming the eyebrows and nose with one continuous line. The eyes are wide and the mouths tiny; elaboration has been reserved for decorative details such as jewelled earrings, brooches and crowns (Figs. 83, 84, 85, 90, 91).

An outstanding feature of the Beth Alpha figures are the long, statuesque necks, enormous in comparison to the body size, but conveying a sense of great dignity. These monumental necks are not an element of Graeco-Roman art, and clearly derive from an eastern source. An interesting comparison can be made with the images in the cave tombs at Edessa, probably dating from the early third century A.D. The mosaics portray formally posed family groups, and seem to be an earlier and more sophisticated version of the style used at Beth Alpha. The Edessan figures have the same elongated necks and large eyes, with faces rendered by lines that often join eyebrows to the nose, but are less stereotyped than the faces at the later and more provincial Beth Alpha (Figs 92, 93, 95).

Almost three hundred years separate the mosaics of Edessa and Beth Alpha, but both evidently represent a style in the two-dimensional arts (mosaics, painting, manuscript illustration) common in the cities of Mesopotamia and the cities within range of Parthian-Sasanian fashion in late antiquity. The head of a Season from the zodiac mosaic from Ḥusifa is derived from the same art style (Fig. 87). Despite the complicated headdress, the head is a simple oval poised on a long neck. The two eyebrows are joined (compare the boy's face in the mosaic from Edessa, Fig. 95), and the strokes forming the nose descend from the corners of the eyes. This formula for rendering a face was still being used in Iraq during the ninth and tenth centuries A.D. on early Islamic pottery (Fig. 94). The formula was evidently in use for nearly a thousand years.

At Beth Alpha the style has advanced a long way towards abstraction. This is partly, I suggest, because the mosaicist was using a manuscript illustration as his model. The simple linear style is perfectly adapted to a manuscript miniature, deriving perhaps from a treatise on astronomy or astrology, which were still being copied in the cities of the Middle East when the synagogue mosaics were laid. The popularity of astronomy and

and astrology as pragmatic disciplines ensured the production of new treatises [34] though little has survived except in later copies.

An eastern orientation is also suggested in certain of the decorative details. The arrangement of the signs into a series of medallions at Yafa is reminiscent of the animals in medallions found so often in the Iranian minor arts, such as the Sasanian silver plates and woven fabrics. [35] The theme was to become an important one in later Islamic art. Fine metalwork objects such as ewers, pen boxes and candlesticks, made in the northern Jazira and Iran during the twelfth and thirteenth centuries, were often decorated with the zodiac, inlaid with gold and silver. Almost invariably, the signs were separated into medallions.

The Near Eastern style of the portrayal is matched by a Near Eastern orientation in the iconography. In the later synagogues Aquarius was portrayed as a well or other water container, Sagittarius as a human archer, and Capricorn as a goat rather than a goat-fish. These differences relate to a common Near Eastern terminology which will be discussed in the next chapter (pp. 408-411). The joined twins at Beth Alpha also suggest an icon under Iranian influence (above, p. 65).

Thus, the synagogue zodiacs are affiliated to an eastern tradition, and suggest that eastern involvement with astrology and astronomy never ceased to be active, even after the decay of Babylon.

34 For example, the treatises on the constellations, and on the astrolabe; composed by Severus Sebokt, A.D. 661-2.

35 Survey of Persian art , Vol. VII, pp 199-202, 215-6, 238.

Chapter sixteen. IRAN, THE NEAR EAST AND THE TRANSMISSION OF THE ZODIAC TO ISLAM

Zoroastrian tradition preserved in the Dēnkart relates that during the reign of Šapur I (c.A.D. 242-273) foreign texts on specific subjects were systematically collected and translated into Pahlavi.[1] The account suggests an emphasis on scientific texts, mentioning in particular medicine and astronomy, and describing them as "those writings from the Religion which were dispersed throughout India, the Byzantine empire, and other lands", due to the chaos following the conquests of Alexander. Thus, according to the Dēnkart, "Iranian" science was returning home. A neat parallel to the sentiments of the Dēnkart exists in Syriac literature. Severus Sebokt, writing in A.D. 662 [2] complained that some people think all science is Greek, but noted triumphantly that the Syrians had precedence in astronomy. To Severus Sebokt, Babylon was a city of Syria, and Babylonian achievements were Syrian achievements, just as to the author of the Dēnkart Babylon had been a part of the Iranian kingdom, and for him, Babylonian achievements were Iranian achievements. The zodiac had taken root and flourished for many centuries in the indigenous traditions of Iran and Syria, deriving probably from direct contact with Babylonia itself, and we shall see now that Near Eastern languages shared some elements of astrological terminology that were not used in Greek or Latin sources.

ZODIAC TERMINOLOGY IN NEAR EASTERN LANGUAGES

Iranian, Syriac, Hebrew, and in due course, Arabic sources indicate the use of a common terminology for the names of the zodiacal signs which differs in small ways from the usage in Graeco-Roman texts. A detailed investigation is the work of a philologist, so here it will

1 Bk. 4. For an English translation of the passage, see Zaehner, Zurvan, 8.

2 Paris, BN Syr. 346. See F.Nau, "La cosmographie au VII^{e} siècle chez les Syriens", Rev. de l'Orient Chrétien, XV 1910, 248.

suffice to draw attention to one sign, Aquarius. In Greek (Ὑδροχόος)[3] and Latin (Aquarius)[4] the name emphasizes the divine agent who pours the water, whereas Near Eastern terminology emphasizes the container that holds the water, referring to the sign as a bucket or pail: Pahlavi dōl;[5] Syriac dwl' ;[6] Hebrew dly ;[7] Arabic dalw .[8] I have chosen this example because the terminology is reflected in the iconography, and can easily be recognized. Returning for a moment to ancient Mesopotamian monuments, the flowing vase was sometimes portrayed alone (Pl. 45), sometimes carried by a divine personage (Pl. 29). Moving on to the Graeco-Roman period, we saw that among the numerous zodiacs, it is rare to find a vase without its divine carrier. Near Eastern zodiacs, on the contrary, often portray the water-container alone. The zodiac mosaic in the synagogue at Ḥusifa, for instance, portrays Aquarius as a fluted amphora (p. 397); in the synagogue at Beth Alpha Aquarius is a man drawing water from a well (Fig. 91); and the Nabatean zodiac from Khirbet Tannur shows Aquarius as an unheld bucket, though the bust of a man was also shown (Pl. 110). Presumably, the Nabateans also referred to Aquarius as a bucket or pail. Later, in Islamic art, a distinction was made between the portrayal of Aquarius on a star-map, where it was shown as a man carrying a water-skin, and its portrayal in an astrological context, where it was usually shown as a well. Al-Biruni[9] mentioned that some of the signs have two names, one that he regarded as "correct", and the other its popular name. He cited Aquarius among the examples, saying that some call the sign

3 For example, Ptolemy, Tetrabibl. I, 17.

4 Manilius, Astronom. I, 441.

5 D.N.Mackenzie, A concise Pahlavi dictionary, 26.

6 Severus Sebokt, On the constellations, translated from the Syriac into French by F.Nau, Rev. de l'Orient Chrétien, 1929-30, 49.

7 From the zodiac floor at ʿEn Gedi, p.

8 Al-Biruni, The elements of the art of astrology, trans. by R.Ramsay Wright, 1934, pp. 69-70.

9 Ibid., p. 70.

al-dalw̄ (الدلو) instead of sākib al-mā (ساكب الماء). The latter (which al-Biruni favoured) more nearly translates the Greek name for the sign, but the former is still popularly used today. Aquarius was one of the oldest of the zodiacal icons, known in Mesopotamia before the end of the third millennium B.C. (above, p. 87), attested in Syria and Anatolia during the second millennium B.C. (p. 88), and preserved on an Elamite helmet from Iran of the first millennium B.C. (Fig. 36). The constellation had thus been a well-used icon in Near Eastern tradition long before the zodiac cycle had achieved significance, and it was doubtless for this reason that there existed a local terminology slightly different from that transmitted to the West, though the name and image in both cases had come from the same source.

To the example of Aquarius we may add a brief reference to Capricorn. In Greek the sign is Αἰγόκερως, the goat-horned, a term which allows for the constellation's fish tail, though without specifically mentioning it. Near Eastern terminology refers to the sign as a goat: Pahlavi whyk;[10] Syriac gdy'; Hebrew gdy; Arabic Jady. In this case Islamic art was again to distinguish between the portrayal of the sign on star-maps, where it was shown as a goat-fish, and its portrayal in astrological contexts, where it was usually a goat.

These small differences between the eastern and western names for Aquarius and Capricorn, with the consequent differences in iconography, suggest that the constellation names in Near Eastern languages stemmed directly from Mesopotamia, having a parallel descent to the constellation names in Greek and Latin, but without using Graeco-Roman sources as intermediaries.

An interesting indication of continuity in Iranian astrological terminology is the name used for the Gemini. The Bundahisn refers to the

10 According to Henning, JRAS 1942, 230, the term refers to a young he-goat. The same is true of the Arabic term.

Gemini as "the two pictures",[11] a term reaching back to ancient Mesopotamian sources and one that we have encountered on cuneiform texts from Aššur (above, p. 62). The terms noted above for Aquarius and Capricorn suggest that a similar continuity of astrological tradition existed throughout the Near East, bolstered by the exchange of ideas on astrological topics among peoples of neighbouring Near Eastern states that undoubtedly occurred, at least intermittently, over the whole period considered in this study. Two instances will serve to illustrate the point. Bardaiṣan of Edessa (b. A.D.154) was evidently aware of Iranian terminology when he referred in the Book of the laws of countries to the sun, moon and planets collectively as the Seven, [12] a term well-known in Iranian sources but not used in Graeco-Roman texts. Iranian terminology had a related name for the zodiacal signs, which were called the Twelve, but for these Bardaiṣan adopted a different term, calling them the Guiding Signs. A second instance of the exchange of astrological ideas can be noticed four hundred years later, when Severus Sebokt is believed to have translated a Sasanian astrological text into Syriac. [13] Later again, Iranian astrologers were active in Islamic courts. Nevertheless, the same writers were also aware of Western texts, Bardaiṣan noting that there was almost no difference between Egyptian and Babylonian astrology, and Sebokt commenting on certain aspects of Ptolemy's work. The picture that emerges presents astrology as a universal discipline, but with minor traditional variations in East and West.

SASANIAN ASTROLOGY

Except for chapters in the sacred writings explaining cosmology/astrology from the religious point of view,[14] astrological treatises in Pahlavi have

11 Mackenzie, "Zoroastrian astrology in the Bundahišn", BSOAS XXVII, 1964, 515.

12 Bardaiṣan, Book of the laws of countries, 28-9, in the English translation by Drijvers, 1965.

13 F.Nau, "Le traité sur les constellations, écrit en 661, par Sévère Sebokt", Rev. de l'Orient Chrétien, XXVII, 1929-30, 327.

14 Mackenzie, op.cit. and W.B.Henning, "An astrological chapter of the Bundahishn", JRAS , 1942.

not survived, though some extant works incorporate Sasanian materials. One example which deals with astrology on a popular level is the Mandaean Book of the zodiac (Sfar Malwašia), published with an English translation by Lady Drower in 1949. The work contains material from diverse sources, some perhaps of Islamic Arabic derivation, though a great deal is older. Lady Drower pointed out in the introduction that certain passages, especially Sections XIV and XV, referred to the King of Kings, or preserved place names that were used in the Sasanian period. Section XV draws on even more ancient material, recording omens from wind direction, shooting stars, rainbows, moon halos, or thunder, reminiscent of Enuma Anu Enlil omens, which were certainly known in Elamite Iran before the Achaemenid period. The Sfar Malwašia is not a manual for casting horoscopes, though the zodiac has an important rôle throughout. It opens with lists of predictions for people born under specific signs, or under the influence of a given planet. Presumably, the appropriate prediction was either chosen from these lists, or drawn by lot. Other sections were devoted to practical matters, such as instructions that blood-letting must not be done with the moon in Taurus, or what amulets to write for people born under specific signs. There was also advice on lucky and unlucky days, another concept well-known in cuneiform sources. Section XIV, in which terms applicable to the Sasanian period were preserved, deals with a matter evidently significant in Sasanian astrology, as we shall see analogous material presently. It gives predictions concerning the welfare of the nation, depending on the governing planet at New Year.

A few Sasanian astrological works have survived in Arabic translations of the early ʿAbbāsid period. A Kitāb al-mawālīd wa ahkāmihā (Book of nativities and their explanations) ascribed to Zaradusht is an early example. Its introduction claims that it was translated from Zoroaster's language into Pahlavi by Māhānkard ibn Mihrziyār for the Marzbān Māhūyah

Māhānāhidh.[15] The introduction goes on to explain that this Pahlavi version was translated into Arabic by Sa'id ibn Khurāsānkhurrah for the Iṣbahbad Sinbād in the time of Abū Muslim. Thus, the author claims that his work is an Arabic translation of a Pahlavi rescension of an earlier Sasanian text on natal astrology. According to Pingree, one of the horoscopes in the text can be dated astronomically to 7 October, A.D. 549, during the reign of Khusrau Anūshirwān.[16]

Comments on Sasanian astrology by Islamic authors are also extant, their knowledge of the subject evidently derived from Iranian astrologers active at the early 'Abbāsid court. Pingree[17] suggested that the main contribution of Sasanian astrologers had been to devise a method of explaining history in terms of Saturn-Jupiter conjunctions. The method depended on casting a horoscope for the spring equinox of years in which a Saturn-Jupiter conjunction had occurred. These took place every twenty years, but more significant ones occurred after 240 years when the conjunction moved from one astrological Triplicity to another (see Appendix A 13). It was assumed that this transition would have great astrological consequences, affecting the rise and fall of dynasties. Even more significant was the Great Conjunction which occurred after 960 years, when the successive conjunctions had moved through all four Triplicities and returned to the starting point. Pingree[18] noted that Ibn Khaldūn associated the idea with Buzurjmihr, a minister at the court of Khusrau I.

15 D.Pingree, "Māshā'allāh: some Sasanian and Syriac sources", in Essays on Islamic philosophy and science, (ed. G.Hourani), p.7 and note 14 on p. 13, who quotes the manuscript Nuruosmaniye 2800. Pingree identifies the Marzban Māhūyah Māhānāhidh with the Marzban of Marw, Māhôê, the son of Māhpanāh (seventh century A.D.) but does not explain his reasons.

16 Ibid. 7.

17 Idem, "Historical horoscopes", JAOS LXXXII, 1962, 487.

18 Ibid., quoting Ibn Khaldūn, Muqaddimah, trans. F.Rosenthal, 1958, Vol. II, p. 216.

A set of horoscopes for the Sasanian monarchs, cast for the spring equinox of their first regnal year, has survived in a tenth century treatise by al-Sijzi, the Kitab al-qirānāt wa tahāwīl sinī al-ʿālam (Book of conjunctions and changes of the world years).[19] These horoscopes are believed to have been cast in the early ʿAbbāsid period, but to have been based on Sasanian sources.

SASANIAN ZODIAC ICONOGRAPHY

No monument portraying a complete cycle of zodiac images has survived from Sasanian Iran, though individual figures might be zodiacal. The repertoire of images on Sasanian seals, for instance, included the solar and lunar chariots,[20] and a range of bulls, lions, rams and scorpions,[21] often together with celestial symbols such as the moon or stars. In addition there is the occasional crab,[22] set of scales,[23] or fish.[24] One looks in vain for the more distinctive images of Aquarius, Sagittarius or the goat-fish, though all three had been represented on Elamite and Achaemenid objects.[25] The term used for Aquarius in Iran and the Near East, however, suggests that it could have been portrayed by an ordinary water container (above, p. 409) and we have seen comparable images of a bucket in the zodiac from Khirbet Tannur (Pl. 110), and a well in the zodiac mosaic at Beth Alpha (Fig. 91). It is worth noting, too, that the goddess Anahita seems to have been regarded in Iran as the embodiment of the waters, and her image may possibly have alluded to the constellation in some instances. Near Eastern popular terminology referred to Capricorn as a goat, and Sagittarius as the Bow, so Capricorn could have been

19 Pingree, The thousands of Abū Maʿshar, 70-127. Also, idem, "Historical Horoscopes", JAOS LXXXII, 1964, 487-502.

20 Göbl, Sāsānidische siegelkanon, Taf. 6, 7c, 7d.

21 Bivar, BM Cat. Sassanian seals, Pls 9-11, 15-17, 24.

22 Göbl, op. cit. Crab, Pl. 10, no. 19a.

23 A.Upham Pope, Survey of Persian art, Vol. VII, p. 256.

24 Bivar, BM Cat. Sassanian seals Pl. 24.

25 Pls 57, 58, Figs 29, 36, 39.

portrayed without a fish's tail, and Sagittarius as a human archer, both constellations being so portrayed at Beth Alpha and both images being known on Sasanian seals. Thus, all the zodiacal images can be found on the seals, and though they are seldom sufficiently explicit to be sure that a zodiacal sign was intended, this must sometimes have been the case, for astrology was of interest at the highest levels of society, as we shall see presently.

Two extant Near Eastern works, apparently produced under Sasanian influence, give an indication of Sasanian zodiac iconography. The zodiac mosaic in the synagogue at Beth Alpha dates to the sixth century A.D., a period in which Jewish trading and political relations with Iran were flourishing (above, p. 401) and Palestine was open to Sasanian influence. The outlined figures of the signs in the Beth Alpha zodiac appear to be derived from a tradition of manuscript illustration, possibly one popularly used for astrological manuscripts in Syria and Iran during late antiquity. Individual signs follow the terminology that we have already suggested was common to Near Eastern areas, that is, Aquarius is a well, Sagittarius a humah archer and Capricorn a natural goat, while the female figures (Virgo and the seasons) are richly jewelled. The Gemini, however, shown as twins joined together down one side of the body, suggest a more specifically Iranian influence, as joined twins are mentioned in the Bundahišn (above, p. 65).

While the Beth Alpha mosaic evidently represents a popular stratum of zodiac iconography, an extant work of a somewhat later period is probably a direct descendant of more aristocratic Sasanian zodiacs. The Kitāb ṣuwar al-kawākib al-thābita (Book on the constellations of the fixed stars) by ʿAbd al-Raḥmān b. ʿUmar al-Ṣūfī (A.D. 903-986) was composed in the second half of the tenth century A.D. and dedicated to the Buwayhid Sultān ʿAḍud al-Dawla, whose preoccupation with things Sasanian is well-known. The Bodleian Library's copy of the manuscript (Marsh 144) may have been written by

the author's son, [26] and is dated by colophon to 400 A.H./A.D. 1009-10. Descriptions of the constellations are illustrated with line drawings in black ink, the major stars shown as red dots of varying magnitudes, and named or numbered. Illustrations are well-drawn, the lines delicate but fluid and self-assured. Human figures have dark hair, elongated eyes and accented eyebrows. They are dressed in thin, clinging garments of silk or very fine cotton which fall in a series of minute pleats, decoratively emphasizing the body contours and breaking into fluttering, bouncing folds at the bottom. The heads are somewhat large in proportion to the bodies, yet the figures have considerable courtly elegance (Figs 98, 99). Sasanian influence is recognizable in the treatment of the draperies, in the fluttering diadem ribbons, and in the sickle-like curve on the wings of Pegasus. Al-Sūfī was a native of Rayy, and logically his constellation figures would draw on Iranian tradition. The graceful illustrations in the Bodleian's Marsh 144 suggest a tradition of manuscript art going back aristocratic volumes of the Sasanian period, and may well provide a fair indication of the earlier work.

ARDAŠĪR'S CITY

Literary sources such as the Shāhnāma credit Sasanian monarchs with a considerable interest in astrology. The need for brevity will compel us to pass over most of this material, though we shall pause to examine two works with an astrological significance, one constructed for the first prince of the dynasty, the second by a monarch towards the dynasty's end.

Ardašīr I (A.D. 224- c.242), the founder of the Sasanian dynasty, built a palace and city known as Ardašīr Khurra, later renamed Gur, and now called Fīrūzābād. In the twelfth century A.D. Ibn al-Balkhi [27] described

26 E.Wellesz, "An early al-Sūfī manuscript in the Bodleian Library in Oxford", Ars Orientalis III, 1959, 1.

27 Noticed by R.Ghirshman, "Fīrūzābād", BIFAO XLVI, 1947, 21.

the city as a perfect circle, as though traced out by a compass, and modern air photos bear out his description. [28] According to Istakhrī who wrote in the tenth century A.D., the city had four gates, one at each of the cardinal points, as follows: Bāb Mihr to the east; Bāb Bahrām to the west; Bāb Hormizd to the north; and Bāb Ardašīr to the south. [29] The round city is not in itself an innovation, [30] and no doubt had many architectural and administrative advantages. The interesting thing in this case is that the distribution of the gates indicates an unmistakable allusion to an astrological planisphere. When the circular perimeter of the city is likened to the ring of the zodiac, the gates at the four cardinal points can readily be located among the signs. The eastern gate (Bāb Mihr) represents the spring equinox in Aries, traditionally regarded as east in zodiac symbolism. In Iran Mithra was a solar deity, the name "Mihr" being adopted for the visible sun in every day speech probably from the Parthian period. [31] Thus, Bāb Mihr on the eastern point of Ardašīr's city represents the sun on its Exaltation at the spring equinox in Aries. The northern gate (Bāb Hormizd) is located on the summer solstice in Cancer, most northerly point of the zodiac. Orhmazd was often equated with the planet Jupiter, this identification being made explicitly in the bilingual inscriptions at Nimrud Dagh. [32] Bāb Hormizd at the north of the cosmic circle, therefore, represents the planet Jupiter on his Exaltation in Cancer.

From here the symbolism changes. The astrological system of Exaltations places Saturn on the autumn equinox, and Mars on the winter solstice. If the cosmic diagram continued in the same pattern one would expect to find

28 See Ghirshman's plates in ibid.

29 Also noticed by Ghirshman, ibid.

30 The Parthian city Darabjird was round, see G.Le Strange, Lands of the Eastern Caliphate, 289.

31 R.Fry, "Mithra in Iranian history", Mith. Stud. Manchester, 1975, 66.

32 Jalabert et Mouterde, IGIS vol. I, I, 40.

a Bāb Kēvān on the western side, and Bāb Bahrām to the south. Instead, Bahrām has been moved up to the western gate, and the southern gate has been reserved for Ardašīr himself. Kēvān-Saturn suffered from an evil reputation in Zoroastrian sources [33] and to have his name on a gate would be akin to reserving a gate for the devil in a Christian city. Bahrām-Mars on the western gate (or on the autumn equinox in Libra) is not on his Exaltation, but placed on the symbolic entrance to the underworld (Appendix A 4). Evidently Ardašīr preferred that only the good deities, Mihr and Orhmazd, should be on their Exaltations, which were thought to be positions of great power. The southern gate was named for the king himself, probably to commemorate his triumphant entry into his city. Thus, although Ardašīr preferred not to place the dangerous Saturn and Mars on their Exaltations, the choice of east and north respectively for gates honouring Mihr and Orhmazd identifies the round city as an astrological diagram.

In antiquity, a monarch planning to found a new city would customarily employ astrologers to determine the most propitious time to begin, and a date on which the sun and Jupiter - Mihr and Orhmazd - were on their Exaltations would be considered highly favourable. The gates may have been named to represent important aspects of the city's horoscope, [34] especially as the position of Bahrām-Mars does not maintain the purely formal arrangement of Exaltations.

33 Zaehner, Zurvan, 158-161.

34 For the horoscopes of other cities portrayed on their coinage, see above, p. 170.

THE TAKHT-I-TĀQDĪS, THE THRONE OF KHUSRAU

A remarkable astrological throne was constructed for Khusrau II Parwiz (A.D. 591-628), but was destroyed even before the end of the reign by the Byzantine emperor Heraclius, who captured the fortress at Ganjak in A.D. 624. Despite its short existance the throne achieved a legendary fame, and is recorded in at least two independant literary traditions, one from the West, the other from the East.

The earliest references to the throne occur in Western sources,[35] though none were penned within a hundred years of the throne's destruction. Substantially the same description was given by the Patriarch Nicephorus (d. A.D. 829), Giorgios Monachus (d. A.D. 867), and Kedrenos (eleventh century) quoting Theophanes (late eighth century A.D.), except that the Patriarch Nicephorus placed the dome in a fire temple rather than a palace, thus differing from all other Western or Eastern sources. From these authors we learn that in Khusrau's palace Heraclius saw an image of Khusrau in relief in a domed ceiling, "as though he were sitting in the sky". About him were the sun, moon and stars, and the likness of angels standing and holding sceptres. The image of the king's power could evidently be enhanced at need by theatrical effects suggesting his control even over the forces of nature. Our sources record that with the help of a machine thunder would roll at the king's will, and drops of rain fall on the assembled company.

The Martyrologium of St. Ado of Vienna (d. A.D.874) provides some additional information. He noted the opulence of the structure, describing it as a throne of gold studded with shining gems, in a tower of silver. In relation to the iconography he mentioned that the sun was portrayed in a

35 The Western sources were collected by Herzfeld, with some additions by Saxl, and have been discussed by several modern authors. A bibliography, together with translations of some of the sources may be found in the catalogue of Zodiac Monuments, Item no. 179.

chariot drawn by four horses, a familiar image on late antique monuments. Most important, he mentioned that the structure moved.

> "With the aid of horses in a subterranean chamber dragging it around in a circuitous track, the structure of the tower was seen to move, so that by some means a rumbling of thunder was fraudulently simulated by the skill of a craftsman".

This additional information suggests that Ado may have drawn on a source different to that used by the other Byzantine authors.

More detailed accounts were given by two Muslim Iranian authors, Firdausi of Ṭus, and al-Thaʿālibī of Nishapur. Firdausi's description of the throne was given in the Shāhnāma, completed in c. A.D. 1009, and al-Thaʿālibī's in Ghurar akhbār mulūk al-Fars wa siyarihim (Glorious stories of the kings of Persia and their way of life), composed about the same time. The two accounts share common elements, but there are enough differences to suggest that Firdausi and al-Thaʿālibī drew on different sources. Both authors note the great size of the structure and the richness of its decoration, mentioning gold, silver, precious stones and carpets. They do not suggest that the throne was of solid gold (as Ado implies), but rather that it was constructed of precious woods, such as teak and ebony (al-Thaʿālibī), and overlaid with a facing of golden plaques, which in turn were decorated with designs in turquoise (Firdausi).

The structure seems to have consisted of two major elements, the throne and the domed structure sheltering it, both of which were capable of movement. Our authors do not distinguish between the two, but treat the whole elaborate setting as a unit. The throne, which according to Firdausi was rotated seasonally to provide for the king's comfort, was not merely an elaborate chair, but included the great platform on which the king was raised. The platform was tiered to incorporate a hierarchical arrangement of seating for peers of the realm, forming a pyramid with the king at the apex. The whole platform was richly decorated with gold and precious stones, the magnificence of the decoration increasing with the height of the platform, and the symbolism suggesting an ascent to the

heavens.[36] The summit of the platform was probably curtained and covered by a baldachin,[37] as it was customary for an enthroned Sasanian monarch to be shielded from the gaze of his subjects. Ackerman[38] has suggested that the cloth of gold described by Firdausi may have been used for the curtain. It was woven, or embroidered, with a map of the heavens showing the king's horoscope, the sun, moon and planets placed in the signs they occupied at the king's birth. It also portrayed the seven climes and the great men of Persia and Rome, including the whole succession of Persian kings, each with his distinctive crown and throne. Al-Thaʿālibī also knew of representations of the seven climes and the succession of Sasanian monarchs, but he placed them in the dome.

The second moving element was the domed ceiling, or if not the whole dome then a portion of it, which apparently rotated slowly but continuously to duplicate the motion of the universe. Al-Thaʿālibī noted that it was made of gold and lapis lazuli, and that on it were represented the signs of the zodiac and other stars. Firdausi and al-Thaʿālibī both mentioned that it was possible to tell the time from the progress of this artificial heaven, and Firdausi added that the moon could be seen in whatever sign it occupied, so presumably the mechanism was designed to show the relative movements of each of the celestial bodies through the signs.

It is of some interest that neither Firdausi nor al-Thaʿālibī mention two details that were reported by the Byzantine authors, that is, that an image of Khusrau was on the ceiling, and that at the king's command artificial thunder and rain could be produced. Two possibilities suggest

36 The second tier of seating for the courtiers, known as "Lapis-lazuli", was already "higher than wind or dust-clouds".

37 Firdausi noted that in winter the king's area was roofed with beaver-skins and sables, but that the courtiers were warmed with heated metal balls. The covering of furs was evidently different from the domed ceiling where the zodiac was depicted. Firdausi clearly distinguishes between the two, so presumably the zodiac was not on a canopy over the throne, but on the domed ceiling of the throne room.

38 P.Ackerman, "The throne of Khusrau (Takht-i-Ṭāqdīs)" Bull. American Inst. of Iranian art and archaeology, V/3, 1937, 107.

themselves. It may be that Muslim Iranians intent on glorifying the past found these details too idolatrous, and quietly supressed them. The second possibility is that the Byzantine descriptions in fact refer to a different room, perhaps even in a different palace. Khusrau Parwiz is known to have had an interest in astrology, even to the extent of studying it himself,[39] so the use of an astrological theme in two rooms of state is quite credible, though the question cannot be resolved without further evidence.

Another detail noticed by both Firdausi and al-Thaʿālibī deserves a passing mention. Rubies that glow in the dark, later to become a familiar element in Western medieval legends,[40] were associated by Firdausi with the Takht-i-Ṭāqdīs, but by al-Thaʿālibī with the royal crown, which he described separately. This small difference is a further indication that Firdausi and al-Thaʿālibī drew on separate traditions.

According to Firdausi, the Takht-i-Ṭāqdīs was a late Sasanian reconstruction of a throne made initially for Achaemenid kings. It had suffered the fate of Iran at the hands of Alexander the Great, and the fragments remained hidden for many centuries before they were rebuilt by a new Iranian dynasty. For Firdausi, writing at the beginning of a period of Iranian cultural renaissance, the throne was a symbol of Iran's glorious past. Firdausi may have been wrong in believing that the Takht-i-Ṭāqdīs had existed physically before the reign of Khusrau II, but conceptually its roots did lie far in the past. Imagery suggesting a monarchy enthroned beneath the vault or canopy of heaven was a familiar theme in Iranian iconography.

The Byzantine lexicographer Hesychius[41] noted that the Persians commonly referred to royal canopies and awnings as "heavens", and the

39 Zaehner, Zurvan, 51, quoting al-Ṭabarī (Nöldeke, 304) and Theophylact. V, 15, 3.

40 See P.Frankl, The Gothic, literary sources and interpretations through eight centuries, 168.

41 See οὐρανός.

imagery seems to have been in use at least by the reign of Darius in the fourth century B.C. According to Plutarch (v. Alex. 37) there was a golden canopy over the throne of Darius, and Alexander took his seat on the Persian throne "beneath the golden vault of heaven". In another context, Plutarch (v. Themistoc. 16, 2) mentioned that Xerxes sat under a golden parasol to observe the course of battle, and presumbaly it, too, symbolized a golden heaven. Gold and blue, especially the hues associated with lapis-lazuli or sapphire, were used as the symbolic colours of the sky. Al-Tha'ālibī mentioned that the dome of the Takht-i-Ṭāqdīs was of gold and lapis-lazuli, and the description of a dome over a hall of justice in Parthian Babylon echoes the same symbolism. A description of the Parthian dome was preserved by Philostratus (Life of Apollonius of Tyana I, 25), who records that Apollonius saw the dome when he visited Babylon in the first century A.D.

> "He reports that he also saw a hall, the ceiling of which was constructed in the form of a dome, like the heavens, covered with sapphire stone, - this stone being intensely blue and of the colour of the sky - and in the heights are the images of the gods in whom they believe, and they appear golden as if from the ether".

In Babylon of the first century A.D. the "gods in whom they believe" would be planetary deities, such as Bēl-Jupiter, and Nabū-Mercury, and as the dome was in a hall of justice, the sun and Saturn, traditionally associated with justice in Babylonia (p.227), were probably given prominent positions. Logically, the zodiac would also be included, so that the sun, moon and planets might have their proper setting, though the brief description does not mention it.

The gold and lapis-lazuli dome covering Khusrau's throne room thus belongs to a long tradition of Near Eastern celestial domes. The parallel Western tradition has been observed in the preceding chapters. Euripides (above, p. 101) attests that tents decorated with constellation figures were known in Classical Greece, and in later periods of Greek and Roman history descriptions and extant monuments have shown that the practice of

decorating the ceilings of temples, tombs and palaces with the zodiac was widespread and popular. The concept came initially from the east, but Khusrau's dome, deeply rooted as it undoubtedly was in Near Eastern traditions, brought the ebb and flow of cross-cultural influences round to complete the circle. The new element was in the mechanism that permitted the dome a series of movements, and the origins of this element can be traced in Greek and Roman prototypes.

The sun, moon and five planets travel at different velocities, the slowest being Saturn, which requires thirty years to pass through all the signs of the zodiac, while the moon completes the circuit in a month. To duplicate mechanically the movements of the celestial bodies relative to each other is a complex problem, but according to Cicero (above, p. 145), Archimedes had already made an armilliary sphere that could do this in the third century B.C. By the first century B.C. Vitruvius described much larger and more elaborate mechanisms powered by water (above, p. 140), from which a spectator could discover what stars were overhead at any time during the day, or read the hour at night when sundials were useless. It was perhaps a mechanism of this kind that was adapted for the dome of the Takht-i-Ṭāqdīs, as Firdausi and al-Tha'ālibī both mention that it was possible to read the time from constellations in the dome.

Another charming folly with cosmological overtones, built in the early part of the first century B.C. warrants a passing mention. Varro's aviary (de re rustica, 4, 5, 9), a circular domed pavilion supported on two concentric rows of columns, had two mechanical stars, Lucifer by day and Hesperus by night, which circled continuously in the dome. The bird cages were placed in the ring between the rows of columns, and at the centre was a pond with a little island.

A better comparison for Khusrau's dome is a famous but now lost Roman work, the Emperor Nero's Domus Aurea, begun in A.D. 64. The sumptuous

interior was adorned with gold, jewells and mother-of-pearl, and the dining rooms had coffered ivory ceilings set with pipes to sprinkle guests with flowers and perfume. One room had been designed to simulate the universe, as Suetonius (Nero 31) writes:

> "The main banqueting hall was circular, and constantly revolved day and night, like the heavens".

No description of the room's decoration has survived, but as Suetonius emphasised the correspondence between the banqueting hall and the heavens, presumably it had a cosmological theme, perhaps including the zodiac. In this setting Nero would play the solar cosmocrator, a rôle to which he alluded in other works. Dio Cassius (LXII, 6), for instance, mentions a canopy used at the reception given for Tiridates:

> "the curtains stretched overhead to keep off the sun were of purple, and in the centre of them was an embroidered figure of Nero driving a chariot, with golden stars all about him".

Nero's revolving hall was perhaps driven by a mechanism similar to the one recorded in Khusrau's palace by St. Ado. Khusrau may have heard of Nero's dome, or it may be that such devices were less rare than we now imagine. A cosmological theme is implicit in the dome of Khusrau, and presumably in Nero's dome, and therefore the movement was a specific part of the scheme. In later centuries moving devices in the throne room seem to have remained fashionable, created simply for a love of the marvellous and to astonish visitors.[43]

The accounts of the Takht-i-Ṭāqdīs show that like the emperors of Rome, Sasanian monarchs employed the zodiac as an element of imperial iconography. Roman imperial practice taught that the king, appointed by the supreme god, was himself divine, part of the company of gods residing among the celestial host. While Zoroastrian thought may not have accorded such

43 The Byzantine emperor Theophilos (A.D. 829-842), for instance, was said to have a throne flanked by enormous mechanical lions, which roared and beat the floor with their tails. See P.Frankl, The Gothic: literary sources and interpretations through eight centuries, 198-9.

status to the Iranian king, his origin was said to be from the gods, and on the terrestrial level he was all-powerful, one who determined the fate of others, even as the planets moving through the zodiac determined human destiny. Alongside of this symbolic use of the zodiac, there was a scientific curiosity about the physical nature of the universe, which was expressed visually in star-maps, celestial globes, and in the case of the Takht-i-Ṭāqdīs, in an elaborate mechanism intended to duplicate accurately celestial motion.

It may be that an image appearing on a Sasanian silver plate should be identified as a portrayal of the Takht-i-Ṭāqdīs. The plate, in the Teheran Museum, [44] portrays a monarch enthroned under a dome. The floor of the throne is raised above a space which may represent a subterranean room, the stilt-like supports schematically suggesting gimbals through which movement could be controlled. A pair of roaring lions below the throne perhaps suggest the element of noise (Fig. 100). The plate appears to belong to the correct reign, as the monarch's crown closely resembles that of Khusrau II.

Medieval kingdoms of the east and west were to inherit the notions of divine kingship from the ancient world, as well as the scientific curiosity, though both were gradually modified, and sometimes condemned, according to prevailing monotheistic doctrines. We shall turn now to an early Islamic monument which still carries some of the spirit of antiquity. Here we shall find the zodiac displayed in a royal setting, but presented with an emphasis on scientific description.

44 Iran Bustan Museum, no. 904. Prudence Oliver Harper, Silver vessels of the Sasanian period I, Royal imagery, N.Y. 1981, Pl. 34.

I am indebted to Dr. A.D.H.Bivar for bringing this image to my attention.

QUṢAYR ʿAMRA

Quṣayr ʿAmra (the little palace of ʿAmra) is situated in the Jordanian desert about one hundred kilometres from ʿAmmān. It is a vaulted stone hall and ḥammām (bath), perhaps erected as a hunting lodge, and once surrounded by an area of cultivation. The well-preserved structure consists of a single audience hall with a door in the east wall leading to the three bathing chambers.[45] These were built to a familiar antique pattern, the three rooms evidently used as an apodyterium, a tepidarium, and a calidarium, the latter domed and containing the painting that will be the object of our study.

Throughout the building, interior walls and ceilings were covered with a remarkable series of fresco paintings. In some cases the subject matter was evidently intended to relate to the purposes of the building, as scenes of hunting are among the paintings in the main hall, and scenes of bathing in the ḥammām. Two paintings must be mentioned briefly before passing on to the star-map, as they shed some light on the building's past. A painting on the wall of a deep recess at the end of the main hall portrays an enthroned figure, presumably the master of the building. Above the figure a damaged Arabic inscription invokes a blessing on an amīr, prince, whose name unfortunately has disappeared. The inscription is in three lines, of which one and a half are legible, and were read by Sauvaget[46] as follows:

Allāhuma bārik ʿala al-amīr kamā bārikat ʿala Dawwid wa Ibrahīm ..[47]

"O God, bless the prince as you have blessed David and Abraham...."

The inscription would be equally acceptable to a Muslim, Christian or Jew, being rooted in the common religious inheritance of the area. We shall see presently that the star-map in the calidarium also seems to belong to an established local tradition.

45 For an architectural description, see Creswell, Early Muslim architecture Vol. I, pt. 2.

46 Sauvaget, "Remarques sur les monuments omeyyades", Journal Asiatique CCXXXI, Jan-Mars 1939, 13-16.

47 For the inscription, see Appendix B, p.

As Sauvaget pointed out, the owner of the building could not have been a caliph, as protocol would have demanded the title Amīr al-mu'minīn, Commander of the Faithful. The use of the simple term amīr suggests a member of the ruling family rather than a reigning caliph.

A second painting portrays six kings, each formally posed and with the right hand raised in a gesture of hommage. Inscriptions in Greek and Arabic indentify four of them as: [48]

1 the Byzantine emperor,
2 Roderick, the last Visigothic king of Spain,
3 the Sasanian king,
4 the Negus of Abyssinia,

each of whom lost territories to the Umayyads. Roderick was king for only a year before being killed in battle in A.D. 711, thus establishing the earliest date possible for the building, while A.D. 750, the end of the Umayyad dynasty, would be the last possible date. Creswell,[49] on the assumption that a dead king is soon forgotton, suggested a date between A.D. 711 and A.D. 714, during the reign of al-Walīd I (86 A.H./A.D. 705-96 A.H./A.D. 715). Grabar [50] and Ettinghausen [51] prefer a date in the reign of Caliph Hishām (105 A.H./A.D. 724 - 125 A.H./A.D. 743), suggesting that the building may have belonged either to the future al-Walīd II, or the future Yazīd III, who ruled briefly as caliphs in A.D. 743 and 744 (A.H. 125-126)

48 Two of the inscriptions were lost

49 Creswell, Early Muslim architecture, Vol. I, pt. 2, 397.

50 O.Grabar, "The painting of the six kings at Quṣayr ʿAmra", Ars Orientalis I, 1954, 187.

51 R.Ettinghausen, Arab painting, 33.

The star-map in the dome of the calidarium has suffered from flaking, but the general structure and some of the constellations can still be clearly discerned (Pl. IV). The structure is based on two independent sets of co-ordinates, the first a series of five declination circles, centred on the celestial pole; the second a series of twelve radii, thirty degrees apart and centred on the pole of the ecliptic (Fig. 101). The ecliptic, correctly off centre, is superimposed as a broad tinted band that stands out clearly against the lighter background. The artist has aimed at accuracy. Theoretically, this carefully constructed grid should have made the correct distribution of the constellations a simple matter, but in practice there are complications. First, the dome is a hemisphere, so the need to portray more than half the celestial sphere [52] inevitably caused distortion. Constellations towards the rim of the dome are enlarged, while those towards the centre have become crowded, and Cassiopea was omitted altogether. Further problems were caused by the four windows cut in the base of the dome. Capricorn, for instance, which should occupy the space taken by a window, has been pressed too close to Sagittarius, and separated too far from Aquarius. In effect, the result is not as accurate as the careful grid might suggest, though the general appearance conveys a good impression.

The dome is centred on the north celestial pole, and Ursa Major and Ursa Minor, separated by Draco, are still clearly visible in the height. Scattered over the rest of the sphere portions of Cephus, Andromeda, Bootes, Hercules, Serpentarius with Serpens, Cygnus, Hydra and Crater, Orion, Canis, and Lupus are among those that can still be distinguished. Of the zodiacal constellations Gemini, Scorpio and Sagittarius are almost complete, while parts of Leo, Cancer, Capricorn, Aquarius, and the looped cord connecting the fishes, can be recognised.

52 Not even the zodiac would be complete if the portrayal were restricted to one celestial hemisphere.

The signs are arranged in anticlockwise order. Where the zodiac cycle is isolated on a monument a clockwise or anticlockwise ordering is neither right nor wrong, merely reflecting the direction of the viewer's orientation. A star-map centred on the north celestial pole, as at Quṣayr ʿAmra, is a different matter, as the presence of the polar constellations specify that the viewer is facing north. For a viewer facing north , a clockwise ordering of the signs is appropriate. An anticlockwise order suggests that the viewer is not looking up at the starry sky, but down on a celestial globe. Saxl [53] noticed this peculiarity of Quṣayr ʿAmra, and suggested that the artist had no personal experience in celestial observation, but was copying the constellations from either a manuscript or a celestial globe. A globe, in fact, seems a stronger probability, as declination circles and radii would almost certainly be included, and constellations such as the Gemini and Serpentarius are portrayed from behind, just as they are on the Farnese Atlas (Fig. 38), suggesting that they were designed initially for a celestial globe. In manuscripts, a frontal view is more prevalent. Confusion over orientation must have been a continuing problem, for al-Sufī's Kitāb suwar al-kawākib al-thābita (above, p. 415) portrays every constellation twice - once as it appears in the sky, and once transposed from left to right, as it appears on a celestial globe.

Constellations retain their antique nudity. Remains of the zodiacal figures are scant, but some interesting peculiarities are apparent. Sagittarius is shooting to the rear, engaged in the Parthian shot. This position, which was to be common in later Islamic zodiacs, is not one that we have seen on ancient examples, though it was sometimes shown in other contexts. The chlamys worn by Sagittarius is also rare among antique zodiacs, though not entirely unknown (see Pl. 66E). Aquarius is holding his amphora upside down, grasping it by the base. This unusual position

53 F.Saxl, "The zodiac of Qusayr ʿAmra", in K.A.C.Creswell, Early Muslim architecture, Vol. I, pt. 2, 424-431.

more nearly resembles the way Aquarius will grasp the water-skin in later Islamic zodiacs than any of the known examples from antiquity. He is wearing a chlamys which has been used to cover his hand. The same is true of Orion, and perhaps also of Sagittarius. Covering the hands was a mark of respect in the ancient Near East, and this characteristic does not occur in any of the other zodiacs we have studied. It seems probable that the Qusayr ʿAmra zodiac represents a Graeco-Syrian strand of zodiac iconography, reflecting local mores and traditions.

The zodiac's position at Qusayr ʿAmra, in the dome over the calidarium rather than in the more public reception hall, is unusual in relation to the royal zodiacs which have occupied us until now. Presumably the dome was chosen because the cupola shape in itself resembles the dome of heaven. Nevertheless, a zodiac within another bathing establishment already existed when Qusayr ʿAmra was built, and was not destroyed until some 350 years later. Pseudo-Codinus, [54] a writer of the tenth or eleventh century A.D., listed the buildings erected by Constantine (A.D. 306-337). Among them he recorded a bath in Constantinople which had a large swimming pool with a zodiac. The building also had seven halls for the celestial Seven, and twelve stoai for the months. He noted that it was finally destroyed under John Tsimiskes, who ruled from A.D.969-976. The Umayyad prince, not yet a caliph, who built Qusayr ʿAmra may even have seen this pool. According to Hamilton Gibb [55] the exchange of courtesies between the Caliphate and the Byzantine emperor continued until A.D. 718, when Umayyad policy swung away from Byzantium in favour of Iran. Alternatively, the baths may have been known to the craftsman who designed or decorated Qusayr ʿAmra.

The fame of the Takht-i-Ṭāqdīs was surely an important influence as well, for there the zodiac was an icon of royalty, part of a long tradition

54 Noticed by Hanfmann, Seasons Sarcophagus II, 116, note 42, quoting Pseudo-Codinus, Topographica, 18.

55 Hamilton Gibb, "Arab-Byzantine relations" DOP XII, 1958, 220-233.

of astral ceilings from the palaces of kings and emperors. The star-map would thus be a doubly attractive motif for an ambitious prince, proving his erudition and suggesting his kingship.

Qusayr ʿAmra is an important monument on three counts. It still clearly represents the antique tradition, and is indeed the only example of a painted star-map in a dome to have survived from antiquity. Secondly, the zodiac images suggest that it may represent a specifically Graeco-Syrian iconography, of which as yet we know no other examples. Thirdly, it is the earliest known Islamic zodiac, and represents a phase prior to the development of a specifically Islamic zodiac iconography. Thus, Qusayr ʿAmra, which stands at the end of one tradition and the beginning of another, is a fitting monument with which to conclude our study.

Chapter seventeen. CONCLUSIONS: THE ZODIAC IN ANCIENT ART

The main iconographic themes of ancient art employing the zodiac have been considered in the foregoing pages and an analysis of the results is now appropriate. The Mesopotamian origin of the images occupied us first, followed by an examination of monuments from the Hellenistic and Roman periods. From this evidence we were able to formulate several new theories, one concerning the zodiac's transmission to the world beyond Mesopotamia, the others relating to its meaning and use during antiquity.

THE ORIGIN OF ZODIAC ICONOGRAPHY

The iconographic evidence assembled in Part 1 has established positively, perhaps for the first time on the basis of a comprehensive survey, that zodiacal images originated in Mesopotamia, where they were first used to represent deities, or symbolize religious concepts. Some were known from as early as the third millennium B.C., and before the end of the second millennium B.C. all twelve images were found among the religious icons pictured on boundary stones and seals. Mesopotamian priority is demonstrated by the lack of comparable evidence until many centuries later, for example in Greek art. The evidence from Mesopotamia suggests that the astral aspects of religion in the area, present at least from the Old Babylonian period, received increasing emphasis during the first millennium B.C.

THE EARLY TRANSMISSION OF THE ZODIAC TO AREAS BEYOND MESOPOTAMIA

A comparative examination of the evidence suggests that the diffusion of the zodiac from Babylonia to other parts of the ancient world did not proceed through a single agency, but by three separate channels. Extant monuments indicate parallel iconographic traditions flourishing side by side, the differences minor, but clearly marked, and persisting until the end of antiquity. Taking a Western viewpoint of the Graeco-Roman zodiac as standard, it is possible to recognize differences in the zodiacal images of Egypt and the Near East. The Egyptian custom of portraying Sagittarius

with wings and a scorpion's tail can be traced to Mesopotamian prototypes, but is not found in Greek or Near Eastern traditions. Indications of a variant tradition in the Near East is provided by the sign Aquarius. Graeco-Roman and Egyptian zodiacs gave first importance to the divine figure pouring the water, whereas Near Eastern tradition emphasized the container. The existence of three traditions suggests that early knowledge of the zodiac may have been transmitted during the Achaemenid period, when each area might have had direct contact with Mesopotamia. Had transmission occurred in the Hellenistic period, one would expect it to have done so through the agency of the Greeks, making the Greek form of the zodiac standard in all three areas.

THE ZODIAC IN RELIGIOUS ICONOGRAPHY

In ancient Mesopotamia the planets and constellations were visible aspects of divinity, the Prayers to the Gods of the Night invoking even the unnamed stars. The gods were thought to glow with a dazzling radiance, and though a planetary deity such as Istar was considered to have an existence separate from the planet, the latter was a manifestation of her divinity. Similar theories were known to the Greeks and Romans. Plato and other philosopher-theologians regarded the stars as divine and as the ultimate home of the divine element in human intelligence. The teachings were elaborated in succeeding centuries, and in the Roman empire these doctrines seem to have been widely accepted on a popular level. The planets had been identified with Greek and Roman deities, and the sun and moon were regarded as divinities, thus the addition of the zodiac to religious iconography was virtually assured.

When the zodiac did emerge in Graeco-Roman religious art, it was treated as an unexpectedly specific icon, accompanying a limited range of deities. Hermes-Mercury was thought to conduct the souls of the dead to the next world, and as Hermes-Trismegistus, was regarded as the god who

taught mankind astrology. One might thus reasonably have expected to find him portrayed in the zodiac, but there is not a single extant example, even though as a planet his route lay through the zodiac. Deities who were portrayed in the zodiac were at the centre of separate cults, yet we have seen that some were regarded as different aspects of a single divinity. The relationship between Mithras, Sarapis, and Chronos-Saturn-Aion, evident in shared epithets and common iconography, has been discussed at length, and the rededicated relief of Phanes indicates that Mithraists were content to accept also an image of that deity as a representation of their own god. Sarapis represented the kingly attributes of this combined divinity, and his name was thus linked in epithets with Zeus-Jupiter. The representations of Jupiter in the zodiac portray the enthroned monarch rather than the wielder of the thunderbolt, and seems to imply an assimilation with Sarapis, while probably alluding to the reigning emperor as well. Isis and Horus were likewise described with the epithets of Aion, perhaps as a result of the interest in deified Time generated by the beginning of a new Sothic cycle in the second century A.D. Images of Pan in the zodiac appear to have been a punning allusion to the same all-encompassing deity, who embodied both Time and the material universe

A list of deities shown with the zodiac, separating those linked with Time and the material universe (List A) from the remaining divinities (List B) will illustrate the position. I shall include the Syrian baetyl in List A because such objects seem to have been regarded literally as fragments fallen from the universe, which in turn was thought to be the substance and material body of the god of Time. It is worth noting that placed in this company, the sun god carved on the face of the baetyl presents an interesting parallel to the solar aspects of deities such as Mithras and Sarapis.

Two deities, Bēl of Palmyra and the Nabatean goddess, have been placed

on List B simply from lack of information. In the case of Bēl, clearly-defined links between his cult and that of Bēl-Marduk in Babylon are attested, but apart from a few rituals, little is known of cult theology in either case. It is reasonable to suppose that the Nabatean and Palmyrene priests were aware of the prevailing interpretation of zodiacal symbolism, and that they used it according to established tradition.

Our list is as follows:

GODS PORTRAYED WITH THE ZODIAC

LIST A Gods fully or partially assimilated to Time and the material universe	LIST B Other gods
Mithras	(i) Artemis
Sarapis	Mars
Phanes	(ii) Bēl of Palmyra
Chronos-Saturn-Aion	The Nabatean goddess of Khirbet Tannur
Jupiter	
Isis	
Horus	
Pan	
The Syrian baetyl	

The list indicates that in the great majority of cases the zodiac was portrayed with a deity related in some sense to the idea of Time. We are now in a position to suggest a meaning for the zodiac as a symbol.

THE MEANING OF ZODIAC SYMBOLISM When it was shown with the deities in List A, the zodiac is best regarded as a symbol of eternity, of the everlasting renewal of the great cosmic cycles, and therefore of immortality. The same cycles, however, govern events on earth, and thus the zodiac was also a symbol of celestial control over human destiny, and of seasonal renewal on earth.

Turning now to List B, we find two sections. Our information concerning the deities in (ii) is insufficient to draw conclusions, and those in (i), who at first glance do not seem to fit the pattern of the deities in List A, will be considered in turn.

ARTEMIS As a moon goddess, Artemis travelled through the entire zodiac every month, and would seem to require no greater justification for having the zodiac as part of her iconography. Nevertheless, consideration will suggest that more was intended. We have seen that the moon was thought to exercise a special influence over human birth and death, and to be concerned with souls entering and leaving the world. It was charged with the task of maintaining the human body, of holding together the spirit and the substance until the time came for the soul to return to the regions of immortality. Thus it is probably correct to interpret the zodiac in lunar iconography in substantially the same terms as we have suggested for the deities in List A. The moon was the link between the human soul and the eternal spheres.

MARS Examples of the war-god in the zodiac suggest initially a whim of Augustus, but reflection indicates otherwise. The planet Mars was Exalted in Capricorn, and we have seen that according to some ancient authors Capricorn was the gate through which the soul passed to reach the home of souls in the Milky Way. We have observed figures of Capricorn in the decoration of tombs and noticed the comment by Germanicus Caesar that Augustus had ascended to heaven by Capricorn, so it is clear that the idea was recognized in the Roman world. Mars Exalted in Capricorn and controlling the final gate into the Milky Way suggests an image created for the Babylonian Nergal, rather than the Roman Mars, who assimilated the imagery when he was identified with the planet. The concept, however, refers again to the immortality of the human soul, implying that the zodiac in the iconography of Mars closely relates in meaning to the zodiacs already

discussed. In the Roman iconography of Mars the signs perhaps referred to the celestial reward of the soldier, as Cicero, describing the Dream of Scipio, stressed the special place allotted to those who served the state. Thus, in Roman terms, Mars may have been thought to have a special concern for the souls of soldiers.

THE MEANING OF ZODIAC SYMBOLISM, 2. The inclusion of Artemis and Mars among those deities shown with the zodiac suggests that the symbolism embraced the alternating cycles of birth and death. Likewise, the Isola Sacra Aion (p. 267) suggests that for some it may have implied the philosophy of rebirth.

ZODIACAL SYMBOLISM IN THE SYNAGOGUE

The foregoing analysis, confined to a consideration of the pagan deities of Roman antiquity, proposed a meaning in broad terms for zodiacal symbolism. The question arises whether the same meaning can be distinguished in the later zodiacs produced within monotheistic Judaism for the floors of Palestinian synagogues. The content and emphasis of any symbolism will naturally vary from one environment to another, but in general terms it is probable that the synagogue zodiacs carried much the same ideas. That is to say that they referred to the eternity of the universe, (or the eternity of God), to celestial control of human destiny (astrology was an important science in early Judaism, and indeed, in the whole area influenced by Sasanian culture), and perhaps served as a reminder of the immortality of the soul. These ideas, implicit in Aion theology, do no violence to the monotheistic concept of a supreme god whose power encompasses the whole universe. The Biblical term "Ancient of Days" could relate with equal facility to Aion or Jehovah. It is interesting in this regard that the Hammath-Tiberias zodiac uses icons from the imagery of Aion, especially the crowned and sceptred figure in Libra. There would, however, be conceptual differences between the use of the zodiac in Judaism and its use in pagan cults. For instance, ideas of re-incarnation, which seem to be implied

in the Aion mosaic of the Isola Sacra tomb, could hardly apply in a religion which did not teach re-incarnation. However the idea of the immortality of the soul, acceptable in either context, may well have been implicit.

Alongside these universal aspects of the symbolism there may be additional local implications, such as reference to the Jewish calendar, or other aspects of specifically Judaic belief.

ASTROLOGICAL DOCTRINES IN THE VISUAL ARTS

Doctrines described in the astrological texts of antiquity were given visual expression in the arts. The earliest to be pictured were the planetary Exaltations, which begin to appear in Mesopotamian seals of the first millennium B.C. The moon in Taurus (Pls 13, 52) is easily distinguished, and on a seal of the Achaemenid period a warrior deity with drawn dagger standing on the back of a goat-fish may well be interpreted, as we suggested, as Mars-Nergal on his Exaltation in Capricorn (Fig. 39). By the early Seleucid period clay tablets with captioned sketches portray Mercury in Virgo (Pl.54) and Jupiter at the beginning of Cancer (Fig. 37). The planets were shown in their Exaltations on the Ptolemaic zodiac from Dendera, and later on many other monuments. An astrological Triplicity appears on a seal impression from Uruk, and although not common on later monuments, the Triplicities were emphasized on the North African mosaic from Bir Chana which honours Saturn (Pl. 102). The decans were portrayed on Egyptian zodiacs from the early Ptolemaic period, and later one finds the planetary Houses, the Dodecaoros, and even the planetary Terms on astrological monuments. For lists of monuments portraying specific astrological doctrines, see the separate headings in the Appendix A. as follows:

Planetary Exaltations	A.2	Dodecaoros	A.9
Planetary Houses	A.3	Decans	A.6
Planetary Terms	A.8	Triplicities	A.5
		Conjunctions	A.5

MANIPULATION OF ZODIACAL SYMBOLISM

A previously unrecognized factor of zodiac iconography is its adaptability. The complexity of zodiacal symbolism was enhanced by the meanings that adhered to individual signs, or segments of the zodiacal cycle. We have seen, for instance, that the signs to the south of the equinoxes were equated with winter, death, and the gods associated with death. Conversely, the signs to the north of the equinoxes signified life. Ancient sources stress the idea of "equality" at the equinoxes, primarily of light and darkness for day and night are of equal length, but also from a positional viewpoint, as the two are "balanced" at either end of the celestial equator. The two equinoxes were said to be at once the same, and yet different: equated with the beginning and end of life, with the sun god and Saturn.

In addition, particular signs were associated with specific deities, as their Exaltations, or Houses. Thus, icons referring to Mars placed the winter signs in the most conspicuous position, or selected only the signs that referred to his Houses or Exaltation. The zodiac baldrics, for instance, are oriented with winter at the top, and the globe under the bust of Commodus-Hercules-Mars selectively shows only Capricorn, Scorpio, and Aries, the god's Exaltation and Houses. Capricorn and Scorpio were also chosen for coin issues from Commagene and various Roman mints to signify victories or other military concerns under the auspices of Mars. In other contexts, different signs could be stressed:

LIBRA was the Exaltation of Saturn, and the first sign of the southern half of the zodiac. It was used to signify an entry into the next life or a judgement of souls. Examples are found on the ivory diptych portraying an imperial apotheosis; the relief of Artemis of Perge portraying the death of the Niobids; and the apotheosis of Hercules in the Igel tomb.

CANCER signified a coming to birth, as on the reliefs from Trier and Housesteads. It was also the moon's House.

ARIES AND TAURUS alluded to the constant renewal of the cosmic cycles, and were often associated with Aion. Taurus, as on the Selene relief from Argos, was also the moon's Exaltation, and Aries was the Exaltation of the sun. Thus it is essential to interpret the signs within the context of individual monuments.

THE ZODIAC IN IMPERIAL ICONOGRAPHY

In imperial iconography the zodiac carried the same message that it did on the religious monuments, but transferred the symbolism to the royal person: the king is the all-powerful controller of destiny; the king is immortal.

The symbolism was known already to the Hellenistic monarchs, and was perhaps even familiar to Alexander the Great, as the Abukir medals, which portray a figure posing as Alexander, include a zodiac on the warrior's shield. Literary evidence records the zodiac as a symbol of royal power not long after the death of Alexander on the garment of a new aspirant for imperial authority, Demetrius Poliorcetes. His adoption of the zodiac for personal adornment after visiting Babylon suggests that earlier zodiac cycles, now lost, had existed in other forms of art, and had perhaps already been applied in Babylon to the iconography of kingship. The zodiacal chlamys seems to echo older Near Eastern ideas, as the temple statues of Mesopotamian deities were adorned with gold-sequined robes known as the Nalbas šame, the garment of the sky.

Zodiac iconography was adopted by Augustus in the first century B.C. and in the following century by succeeding emperors. The banqueting hall, revolving day and night like the firmament, in Nero's Golden House, undoubtedly had a cosmological decoration which probably included the zodiac. Less than thirty years later the palace of Domitian (Item no. 183) was also decorated with the constellations, so that banqueting there was like "resting with Jupiter amid the stars" (Statius, Silvae IV, 2). Later again,

Septimius Severus displayed his horoscope on a palace ceiling. Astrology had grown increasingly important, and the emperor's horoscope was sometimes displayed as a token of his legitimacy, proof that he was selected by the gods for imperial honours at birth, or even conception. A horoscope portending imperial power was of particular significance to those emperors who, like Augustus or Septimius Severus, had achieved power by military force.

Beyond the eastern limits of the Roman empire, Sasanian monarchs also displayed the zodiac as a symbol of regal authority, and incorporated it into palace architecture. The lavishly decorated revolving dome in the palace of Khusrau II, constructed towards the end of Sasanian rule, carried the zodiac's powerful symbolism to the end of antiquity, and helped to assure its reception at the courts of dawning Islam.

* * *

In addition to these theories, formulated with reference to the material as a whole, we have found texts to interpret a class of objects, the astrological planispheres; drawn attention to a previously unnoticed text concerning Mithras; suggested new identifications for several works of art; and proposed a theory relating to a group of symbols on Palmyrene tesserae.

THE PLANISPHERES

Planispheres, such as those fepresented by Daressy's plaque, the Bianchini fragments, the ivory diptychs, and the Meroe fragment, have been identified in the foregoing pages as objects used by astrologers for casting horoscopes. An incident in the Syriac version of the Alexander Romance, previously unnoticed with respect to the planispheres, described one in some detail, and recorded something of its use. By combining this information with the briefer account in the Greek version, a picture of the planispheres and their use emerges. There were two types: those light enough to be carried around on the astrologer's person, and the heavier

examples that would remain items of household furniture. The planispheres has a flat surface, engraved, painted or inlaid with concentric rings, one or more of which would contain the zodiac. When needed for use it was placed on a tripod to form a little table. A set of gems representing the sun, moon, planets and the point of the Ascendant would then be arranged on it according to the state of the heavens at the moment of the subject's birth. This done, the astrologer could "read" the horoscope in the normal way. Those planispheres having two zodiacs would enable the astrologer to lay out the birth charts of two people at once, to check for compatability in prospective marriages or business partnerships, a common practice in antiquity.

TEXT RELATING TO MITHRAS

The statement of Claudius Ptolemy (Tetrabib. II, 3, 64) that the planet Saturn was revered as Mithras-Helios, although not yet discussed in studies of the Mithraic cult, is an important addition to the extant textual evidence. The identification of Mithras with Saturn, already suspected by certain modern scholars, but confirmed by Ptolemy, explains the supreme position of Saturn in the hierarchy of the Mithraic grades. The identification with Helios and Saturn helps to explain the oft-quoted reference to the equinoxes as the god's "throne". The reference is astrological, as the sun and Saturn are Exalted respectively on the spring and autumn equinoxes, and the Exaltation was sometimes known in ancient texts as a "throne". The dual identity may also explain the two attributes, a torch and a dagger, that Mithras sometimes carried; the torch perhaps signifying his persona as the sun, and the dagger as Saturn, the reaper of lives.

Ptolemy's statement, written in the mid-second century A.D. when the cult was expanding, is of significance to the debate concerning the origins of Roman Mithraism, as Ptolemy recognized the cult in a Near Eastern context, naming Parthia, Media, Persia, Babylonia, Mesopotamia and Assyria. His

statement supports our hypothesis, set out in Ch. 8 above, that the roots of some Mithraic iconography can be traced in the Mesopotamian art of an earlier period.

RELIGION AND ASTROLOGY

The seven celestial bodies, thought to exercise a profound control over human destiny, can be numbered among the most important divinities of pagan antiquity. Under the circumstances it was inevitable that religion and astrology should be closely linked, and astrology regarded by many of its practitioners as a sacred discipline. It seems probable that astrological doctrines originated as religious concepts. Though formulated before the Roman period, and in some cases going back to Mesopotamian roots, some of the concepts were probably still embedded in cult doctrines of the empire. For example, the astrological Exaltations and Houses are well-known in Greek and Latin treatises written as instructions in the art of casting horoscopes. Our study of the monuments, however, has shown that the Exaltations and Houses were recognized in certain Roman cults. The sign Cancer, the moon's House, was regularly portrayed on statues of Artemis of Ephesus, even when the other signs were omitted. Saturn was shown on his Exaltation in Libra on two Mithraic tauroctonies, and the links between Mars and Capricorn (his Exaltation), and Mars and Scorpio (his House), have been explored on many occasions in the preceding pages. These examples are relatively easy to recognize, and the association of these doctrines with astrology should not blind us to their possible relevance in a religious context. Indeed, if used with caution, the astrological treatises of antiquity may yet reveal other facets of antique theology.

NEW IDENTIFICATIONS OF WORKS OF ART

The torso wearing a zodiac baldric in the Vatican Museum, previously identified with Helios-Apollo, has been re-identified as Mars. In the complexity of antique theology this is hardly a contradiction. Hellenistic

syncretism equated Mars with Nergal, and Apollo, too was sometimes identified with Nergal. Mars, however, does not seem to have been identified with the sun before the Roman period (Macrobius, Sat. I, 19, 1-4). As evidence for the new identification we noted the orientation of the zodiac on the baldric, and the comparable zodiac baldric on the Virtus of the Villa Medici relief. The similarity of the torso's pose to the representation of Mars Ultor on an Augustan coin was also noted, and we suggested that the Vatican torso was of Augustan date, created initially for the round temple of Mars Ultor on the Capitol, but transported later to the new temple in the Forum of Augustus, and finally superseded in the reign of Hadrian, after the theft of the statue's helmet (p. 201).

A stele in the Louvre, originally from Carthage, was thought previously to represent Helios-Apollo, but has been re-classified as Chronos-Saturn-Aion, as the ring form of the zodiac found on the stele belongs to the iconography of the latter deity.

For the Trier birth relief, thought previously to represent the birth of Mithras, a more general theme of the coming to birth of a human soul has been suggested. The Trier relief, certainly Mithraic, seems to illustrate ancient descriptions of the descent of the soul, and there are noticable differences between this work and other representations of the birth of Mithras, where the god is usually shown with attributes, such as a dagger and torch. As a theme, the descent of the soul seems to have been of interest in the cults of Mithras and Artemis.

ROSETTE SYMBOLS ON PALMYRENE TESSERAE

An investigation of rosette symbols on Palmyrene tesserae has led to the proposition that Palmyrene art recognized different symbols to distinguish each of the planetary deities: an eight-pointed daisy for Bēl-Jupiter; an arrangement of seven dots for Mars-Nergal; a type of "Tudor rose" for Nebo-Mercury; and a rosette with an enlarged centre for

Venus. The identifications were made from examples on which the rosettes were associated with inscriptions, or with other well-known icons.

AION

The monuments have frequently directed our attention to a deity of infinite Time, who was apparently regarded as both one and many, for the evidence suggests that some of the most important divinities of Roman antiquity were identified with him. The Classical Chronos, recognized as a Time god, reflects in some connections memories of the Iranian Zurvan. The physical processes of Time, visible in the apparent circling of the heavens and in the alternating seasons, seems to have been equated with the deity's material presence. Thus the zodiac and seasons were his attributes, signalling his identity in the visual arts. The concept of a divine universe, known to the Greeks at least since the time of Plato, was probably of Near Eastern origin, and the Time gods of the Roman zodiac monuments seem likewise to have originated in the Near East. Though a reconstruction of the deity's theology cannot be attempted here, we may reasonably guess that an interest in it lay behind the well-known speculation concerning the Great Year, a Golden Age, and the repetition of the cosmic cycles. His frequent appearances in our text seem to have been the result of widespread popularity rather than the accidental survival of particular monuments, his appeal perhaps being a symptom of the great advances achieved in scientific astronomy during the first millennium B.C.

VARIATIONS IN ZODIACAL IMAGERY AS DATING CRITERIA

In the course of the study, variations in zodiacal imagery were observed, some apparently the result of changes occurring over a period of time, others related to geographical factors, and others again resulting from the cultic milieu of the monument concerned. Some examples were noted earlier, in particular those supporting our suggestion that the zodiac was transmitted from Mesopotamia via three separate channels. A few additional examples

also warrant review, as they may prove helpful when the date of a monument is in question.

CAPRICORN In early images the goat-fish is invariably depicted with a short tail. Portrayals of the long, looped tail commonly found on Roman monuments seem to have evolved in the first century B.C. The earliest examples known at present are those on the Augustan cameos, one of which is believed to date to the twenties of the first century B.C.

LIBRA In Mesopotamian and Greek sources this sign has a dual identity, for it was at the same time a balance and the claws of the scorpion. Early attempts to unite the two ideas into a single image resulted in some unusual icons, and the attempts were evidently abandoned, at latest by c. A.D. 50, but probably earlier in many areas. The last known example of the dual icon is in the Temple of Bēl in Palmyra, dedicated in A.D. 32. From that time on, extant examples show only the scales, usually held by a youthful god. The latter image seems to have developed in the first century B.C., being mentioned in Roman literary sources from that period. The success of this icon was perhaps the factor that caused the earlier experiments to be abandoned. In some later works the deity holding the scales was shown with a sceptre or crown, and thus represented the Time god Chronos-Saturn-Aion on his Exaltation.

DIVIDING LINES BETWEEN ZODIACAL SIGNS The earliest surviving zodiacs show no dividing lines between the signs, which are portrayed as a continuous band, thus representing the zodiac simply as twelve constellations on the ecliptic. A more advanced view of the zodiac regarded the signs as equal segments of celestial arc. The latter concept was recognized in the arts by spacing the zodiacal images equally, and placing a dividing line between each. This innovation seems to have been a product of the first century B.C., for although the concept of equal signs was well-known to astronomers and mathematicians prior to that time, its appearance in the arts suggests that the idea was at last recognized on a popular level. Our earliest

example of divisions between the signs seems to be on the zodiac baldrics and the planisphere fragment from Meroe, each of which we have dated to the Augustan period.

All three innovations, the lengthening of Capricorn's tail, the introduction of a god to hold the scales in icons of Libra, and the addition of dividing lines between the signs, seem to have occurred in the first century B.C. In addition, the first surviving evidence of horoscopes written in Greek, and the Leo of Nimrud Dagh date to the same century. In that century Augustus honoured Mars by adopting Capricorn as an imperial emblem, and Cicero described the Dream of Scipio, a vision set among the celestial spheres. Undoubtedly, there had already been devotees of astral religion among European people during the preceding centuries, but the evidence suggests a marked increase in popular enthusiasm for the zodiac, astrology, and astral religion in the first century B.C., or even already in the closing decades of the second.

A glance at our catalogue (pp. 517-576) will show that zodiac monuments have survived from antiquity in substantial numbers, in itself an indication of the zodiac's iconographic importance. Art is both image and idea, and although the quantity of material has precluded a detailed study of every monument, artistic form and symbolic message were given equal emphasis in our study. The symbolism has proved to be surprisingly complex and the artistic vocabulary adaptable, and our scrutiny has opened the way for further insight into the zodiac monuments. New examples, such as the recently discovered Sparta mosaic, continue to accumulate, so there will undoubtedly be more to learn. The people of antiquity regarded the zodiac as a powerful symbol, an expression of religious faith. For us, perhaps, it might be a symbol of the fruitfulness of a continuing interaction between east and west, and of our joint inheritance from the achievements of the great civilizations of the past.

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JNES — Journal of Near Eastern Studies.

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JRS — Journal of Roman Studies.

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APPENDIX A.1.

THE BABYLONIAN ZODIACAL SIGNS AND EQUIVALENT MONTHS

	SIGN	SUMEROGRAM	MONTH
I	Aries	LÚ.ḪUN.GÁ	Nisannu
II	Taurus	GU_4.AN.NA	Aiaru
III	Gemini	MAŠ.TAB.BA.GAL.GAL	Simānu
IV	Cancer	AL.LUL	Dumuzu
V	Leo	UR.GU. LA	Ābu
VI	Virgo	AB.SÍN	Ulūlu
VII	Libra	ZI.BA.AN.NA	Tašrītu
VIII	Scorpio	GÍR.TAB	Araḫsamna
IX	Sagittarius	PA.BIL.SAG	Kislīmu
X	Capricorn	SUḪUR.MÁŠ	Ṭebētu
XI	Aquarius	GU.LA	Šabāṭu
XII	Pisces	KUN.MEŠ	Addaru

MODERN DATE EQUIVALENTS

ARIES	21 March - 20 April	LIBRA	24 September - 23 October
TAURUS	21 April - 21 May	SCORPIO	24 October - 22 November
GEMINI	22 May - 21 June	SAGITTARIUS	23 November - 22 December
CANCER	22 June - 22 July	CAPRICORN	23 December - 20 January
LEO	24 July - 23 August	AQUARIUS	21 January - 19 February
VIRGO	24 August - 23 September	PISCES	20 February - 20 March

Ancient astronomy regarded the earth as stationary while the sun daily changed its position. To the earth oriented viewer it appeared that the sun made a yearly pilgrimage through the ecliptic, spending one month in each zodiacal sign in turn, and progressing one degree further through the sign each day. The positions of the signs were fixed when it was agreed that the spring equinox corresponded to the first degree of Aries. Thus, Aries was conventionally the first of the twelve. Over the centuries precession has moved the equinox a number of degrees further to the south, so the sign Aries no longer corresponds to the constellation Aries, but has moved well into Pisces. The dates in the Table above represents the period in which the sun passes through each sign, not the constellation.

APPENDIX A.2.

THE PLANETARY EXALTATIONS

Ptolemy, Tetrabib. I, 19.
Firmicus Maternus, Mathes. II, iii, 4-5.
Sextus Empiricus, Adv. astrol. 35-36.

Ancient astrology alotted a specific zodiacal constellation to the sun, moon, and each of the five planets as its Exaltation, and in that sign it was thought to achieve maximum astrological influence. The signs of Exaltation were as follows:

sun	- Aries	Jupiter	- Cancer
moon	- Taurus	Saturn	- Libra
Venus	- Pisces	Mercury	- Virgo
Mars	- Capricorn		

The system was initially devised in Babylonia. It is first attested on a cuneiform text from the reign of Nebuchadnezzar II (604-562 B.C.), now in the British Museum (55466 + 55486 + 55627). The text was published by King,[1] translated by Landsberger,[2] and noted by other scholars.[3] Since then, references to the system have been noticed in other astrological explanatory texts[4] and on monuments from the Achaemenid and Seleucid periods. Examples cited during the course of this study include:

VAT9428, from Aššur, which gives a description of Cancer and mentions that Jupiter "stands" with it (above, p. 67);
VAT6448, from Aššur, portrays Mercury in Virgo (p. 73 and Pl. 54);
VAT7851, from Aššur, portrays the moon in Taurus (p. 59 and Pl. 52).

Two interesting peculiarities of the Babylonian Exaltations is that they stress the points of solstice and equinox, and that the planets and sun are arranged on the zodiacal circle as opposing pairs.

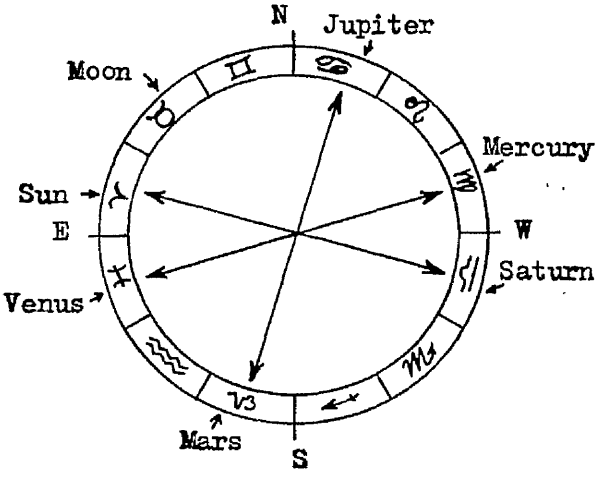
The SUN, Exalted on the spring equinox in Aries, is opposed on the autumn equinox (Libra) by SATURN, known as the Night Sun.[5]

JUPITER-MARDUK, in Babylonian religion a creator and god of heaven, is Exalted on the summer solstice in Cancer. He is opposed by MARS-NERGAL, a god of death and lord of the underworld, who is Exalted on the winter

1 King, Seven tablets of creation, I, 211-214.
2 Landsberger, "Ein astralmythologischer Kommentar", AfO I, 1923, 43-48.
3 Weidner, Handbuch, 23, 69, 71 on the Exaltations in general.
4 Langdon, The Babylonian epic of creation, 149 ff.
5 Jastrow, "Sun and Saturn", Rev. d'Assyr. VII/4, 1910, 163-178.

solstice in Libra.

MERCURY-NABU, craftsman, scribe and patron of intellectual activities, is Exalted in Virgo. Opposite, VENUS-IŠTAR, mistress of the impassioned response in either love or war, is Exalted in Pisces.



Only the moon, Exalted in Taurus, was left without an opponent.

The Exaltations were an important element in later Graeco-Roman astrology, and were always taken into consideration when casting a horoscope. The corollary of the Exaltations was the Depressions, an expansion of the system which taught that the sun, moon and planets were depressed, i.e., had their weakest astrological effect, in the sign opposite to their Exaltations on the zodiacal circle. The Depressions are not mentioned in the known Babylonian texts, but the arrangement of the deities into contrasting pairs, - e.g. the creator versus the destroyer on the summer and winter solstices - suggests that the idea was already implicit.

Ptolemy, writing in the second century A.D., still refers to the Exaltations and Depressions in terms of whole signs, but later sources, while retaining the system, restricted the Exaltation or Depression to a particular degree of a sign, as follows:

	EXALTATION		DEPRESSION	
Sun	19°	Aries	19°	Libra
Moon	3°	Taurus	3°	Scorpio
Jupiter	15°	Cancer	15°	Capricorn
Mercury	15°	Virgo	15°	Pisces
Saturn	21°	Libra	21°	Aries
Mars	28°	Capricorn	28°	Cancer
Venus	27°	Pisces	27°	Virgo

EXALTATIONS, continued. APPENDIX A.2.

A papyrus, P.Mich. 149, col. 31, refers to the Exaltations and Depressions as Thrones and Prisons[6] (above, p. 234).

MONUMENTS

The Exaltations seem to have had a rôle in certain antique cults and were portrayed on a number of monuments.

VAT7851, sketch on a cuneiform tablet, moon in Taurus (p. 59).

VAT6448, sketch on a cuneiform tablet, Mercury in Virgo, (p. 73).

Temple of Khnum, Esna, lost zodiac from a ceiling, planets shown in their Exaltations, Item no. 14.

Temple of Khnum, Esna, ceiling zodiac, planets in Exaltations, Item no. 15.

Temple of Hathor, Dendera, round zodiac, planets in Exaltations, Item no. 16.

Barbarini Mithraeum, Rome, Tauroctony fresco, Saturn in Libra, Item no. 47.

Dura Europos, Mithraeum, tauroctony relief, Saturn in Libra, Item no. 43.

Argos, bust of Selene in the zodiac; horned moon on the head of the goddess and the Pleiades in the field are used to suggest the moon in Taurus. (The Pleiades are part of the constellation Taurus, see p. 59). Item no. 124.

Bust of Commodus-Hercules-Mars; a globe under the bust portrays Capricorn, Scorpio and Aries, the Exaltation and two Houses of Mars, Item no. 33.

Gem showing Sarapis-Jupiter with Cancer, the Exaltation of Jupiter; drawing published by C.W.King in 1860, Item no. 77.

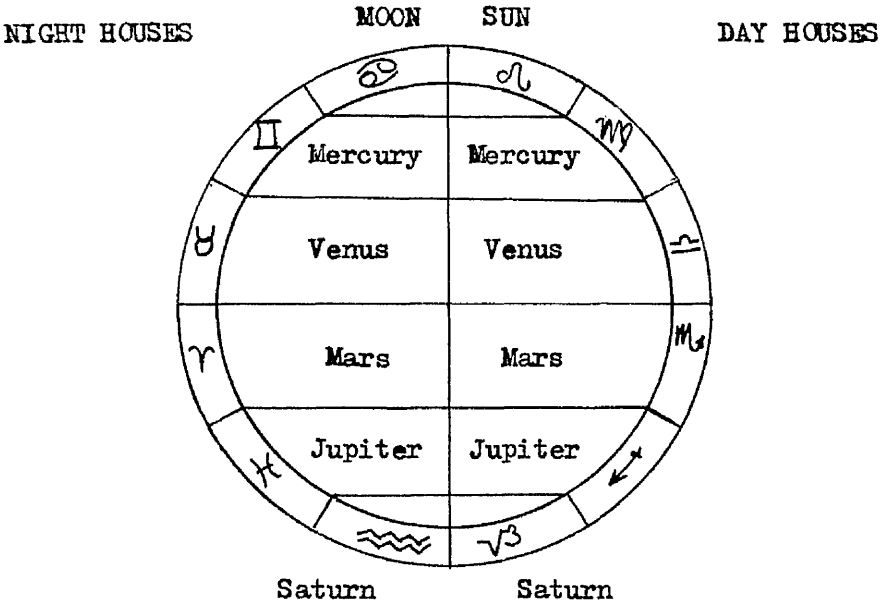
6 F.E.Robbins, "A new astrological treatise", Classical Philology XXII 1927 (Jan.), 44.

APPENDIX A.3.

THE PLANETARY HOUSES

Ptolemy, Tetrabibl. I, 17.
Firmicus Maternus, Mathes. II, ii, 5.
Sextus Empiricus, Adv. astrol. 34.

The system of planetary Houses divides the rulership of the zodiacal signs among the planets in an entirely different way. The zodiacal circle was bisected by passing a line from the junction of Cancer-Leo, to the junction of Capricorn-Aquarius, and the left and right hemispheres likened to day and night. Cancer, to the east of the division, was declared to be the House of the moon, and the remaining signs to the east of the division were said to be the Night Houses of the planets. Leo became the House of the sun, and the remaining signs to the west of the division became the planetary Day Houses. The five planets were allocated Houses according to their physical distance from the sun in the heavens. Mercury, the closest of the planets to the sun, was allocated his Day and Night Houses in Virgo and Gemini. Venus received Libra and Taurus; Mars, Scorpio and Aries; Jupiter, Sagittarius and Pisces, and Saturn, most distant of the five, was allocated Capricorn and Aquarius.



The moon and sun alone have one House only.

The planetary Houses appear in Graeco-Roman texts as an already completed system, but they have not been noticed in cuneiform sources. Thus, the origin of the doctrine is at present unknown. It is worth noting that

Leo as the House of the sun seems to be attested already in the fourth century B.C. Miletus, site of the famous Temple of Apollo, issued a long series of coins, beginning about 360 B.C., which portrayed the head of Apollo Didymeus on the obverse, and a lion looking back at a star on the reverse.[1] As Apollo was regarded as a sun god, the juxtaposition of Apollo with a lion and star on the coins suggests that Leo was already recognized as the sun's House. Further evidence from the same period is found on the coins of Tarsus, from the time of Mazaeus (361-333 B.C.). The type portrays a lion with a sun and crescent, and again suggests a reference to Leo as the sun's House. In any case the lion is astral. As Newell[2] pointed out, the sun above and moon below are part of the design, being too big for magistrates' marks and in the wrong position. The lion on the fourth century coins of Tarsus and Miletus must refer to the zodiacal Leo, and because of the allusions to the sun, it seems to represent the astrological sun's House. If so, these coins are by far the earliest evidence for the existence of the doctrine.

With respect to Cancer as the moon's House, there is no comparably early evidence, though in later centuries statues of the Ephesian Artemis often included a crab among the symbolism (pp. 302 - 307).[3]

MONUMENTS

The planetary Houses were portrayed on the following monuments:

The Alexandrian zodiac coin series of 144/5 A.D. Coins portrayed each planet separately in its Day and Night House. Items no. 189 - 202

Coins of Tarsus, time of Mazaeus (361-333 B.C.); lion with sun and crescent, Item no.

Coins of Miletus, obv. Head of Apollo Didymeus, rev. lion and star. A long series of coins, beginning c.360 B.C. Item no. 213.

Temple of Hathor, Dendera, rectangular zodiac, planets in Houses. Item no. 17.

Bust of Commodus-Hercules-Mars; a globe under the bust portrays Capricorn, Scorpio and Aries, the Exaltation and two Houses of Mars, Item no. 33.

Gem showing Sarapis-Jupiter with Sagittarius, the Day House of Jupiter; drawing published by A.Gori, 1750. Item no. 76.

1 BMC Ionia Pl. XXI,8, nos. 51-52 and p. 189.

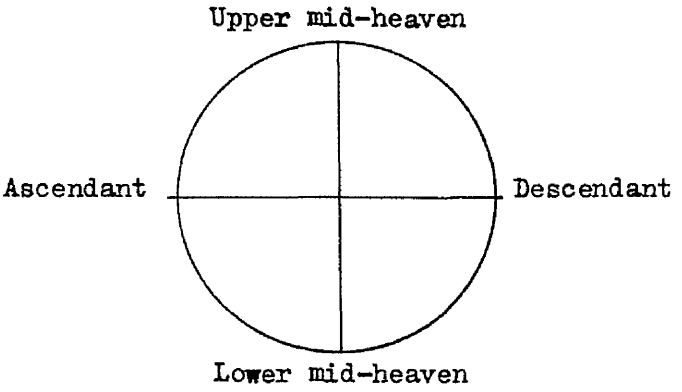
2 E.T.Newell, "Myriandros - Alexandria Kat'isson", American Journal of Numismatics, LIII/2, 1919, 27.

3 See also comments by R.Beck concerning the positions of Sol and Luna with Mithraic zodiacs, in "Interpreting the Ponza zodiac I, Journal of Mithraic Studies, I/1, 1976, 6. Beck noticed that Sol is usually placed on the side of the Day Houses, and Luna on the side of the Night Houses.

APPENDIX A.4.

THE ASCENDANT

As well as revolving around the sun, the earth rotates on its axis once every twenty-four hours. Thus, in twenty-four hours all twelve signs of the zodiac pass overhead. The signs rise on the eastern horizon (the Ascendant), and the one rising at any given moment is said to be on the Ascendant. In a natal chart the Ascendant is one of four centres, the others being the Descendant, the Upper Mid-Heaven, and the Lower Mid-Heaven. See Sextus Empiricus, Adv. astrol. 12-20



The upper half of the circle represents those signs which were above the horizon at the moment of birth, and the lower half those which were below the horizon. The lower half of the celestial sphere was likened to the underworld, so the Lower mid-heaven was sometimes given a name that alluded to this. A Demotic text referred to it as the Lake of the Dwat (above, p. 341), and for Severus Sebokt (Treatise on the Astrolabe) [1] it was the Place of the Fathers.

To calculate a horoscope, the moment of the subject's birth must be matched as exactly as possible to a degree of the rising sign. This point is sometimes called the horoscopus, and from it many of the calculations which finally produce the horoscope must begin. The position of the Ascendant automatically establishes the influential positions of Upper and Lower mid-heaven, and the Descendant, and from the Ascendant are counted the twelve Places needed for assessing the effect of the stars on the multiple facets of the subject's life.

Each sign rises in approximately one-twelfth of the twenty-four period, that is, two hours per sign or four minutes for each degree. In practice, however, the slope of the ecliptic causes some signs to rise at a steeper angle to the horizon than others, resulting in a phenomenon known as

1 English translation by R.T.Gunter, Astrolabes of the world, vol. I p. 86.

"fast" or "slow" rising signs. Manilius (Astronom. III, 218-245) warns the astrologer that this must be taken into account when establishing the degree of the Ascendant for a horoscope. By far the simplest method of determining the astronomical data needed for casting a horoscope, e.g., the degree of a sign rising over the eastern horizon and the position of the sun, moon and planets at a given time, was by means of specially constructed ephemerides. These were tables noting astronomical information for a given latitude and for more or less brief intervals of time, depending on the rate of movement of the respective bodies. Such ephemerides saved the astrologer a great deal of time. The earliest examples are known on cuneiform tablets, and such examples were apparently used by the astrologers who cast the extant horoscopes from Uruk (above, p. 108). Similar ephemerides were widely used in the Graeco-Roman world, being updated and adjusted for different latitudes. With the rest of the paraphenalia of astrology, they were passed on to Islam, and are still used by modern astrologers in both east and west.

MONUMENTS

The Ascendant was sometimes distinguished visually on monuments portraying a horoscope. Dio Cassius (Ep. LXXVII, 11, 1) refers to the Ascendant as the portion of the sky that "observed the hour" of the subject's birth. He mentions that it was distinguished on the horoscope ceiling of Septimius Severus, where its position had been deliberately falsified. (Item no. 30). Among the extant zodiacs, the Ascendant has been distinguished on the following;

The horoscopes painted on the ceiling of the tomb of the brothers, Ib-pmeny and Pa-mehit. Item no. 168

The coffin of Heter, Item no. 142.

The horoscope gem, Item no. 167.

APPENDIX A.5.

ASPECTS

Ptolemy, Tetrabibl. I, 13.
Manilius, Astronom. II, 270-273.
Sextus Empiricus, Adv. astrol. 39-40.

The term Aspects was applied to certain geometrical relationships that were considered astrologically significant. The term was used for the fixed relationships between specific zodiacal signs, and also for the constantly varying relationships that could occur between the sun, moon and planets, or between those bodies and the four astrological cardines, Ascendant, Descendant, Upper mid-heaven, and Lower mid-heaven. The Aspects distinguished in ancient texts were trine, quartile, sextile, and opposition, and with respect to the mobile bodies, also conjunction.

Aspects were a basic component of ancient astrology, being thought to distinguish positions with a particularly powerful influence, either for good or ill. Ptolemy related the theory to musical intervals, which were either harmonious or discordant. Until recently little was known of the origin of the doctrine except that it appears fully formed in the earliest extant Graeco-Roman astrological texts, but a cuneiform tablet in the British Museum (BM36746) published in translation in 1984 (above, p. 109) shows that the trines (or triplicities) had already been recognized in Achaemenid Babylon.

TRINE

Ptolemy, Tetrabibl. I, 18; and II, 3. Geminos, II, 7-15.
Manilius, Astronom. II, 273-286.
Firmicus Maternus, Mathes. II, vii, 1 ff.

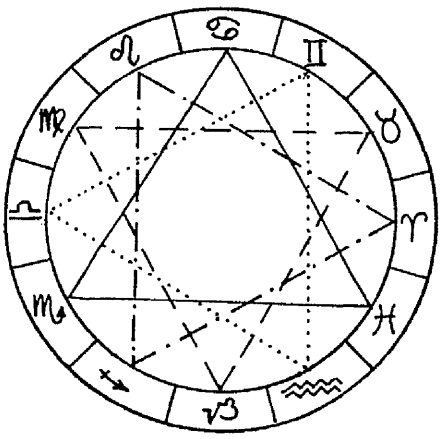
Four equilateral triangles can be inscribed within the zodiacal circle, each with a side encompassing 120 degrees of celestial arc, the points of the triangle separated by three signs.
The zodiacal triplicities were:

1 Aries, Leo, Sagittarius;

2 Taurus, Virgo, Capricorn;

3 Gemini, Libra, Aquarius;

4 Cancer, Scorpio, Pisces.



ASPECTS, continued. APPENDIX A.5.

TRINE, continued.

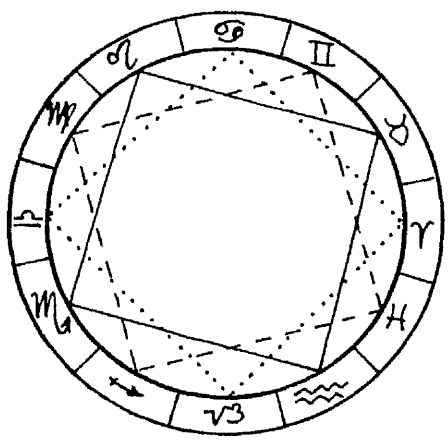
Each of the triplicities was governed by one or more of the planets, and was thought to have a particular nature. Ptolemy relates them to geographical areas and explains the national characteristics of people in each area with reference to the triplicity and its planetary lords.

Cuneiform text BM36746 links the triplicities with specific winds, and it is of some interest that Ptolemy also stresses the relationship between winds and triplicities. An even later astrologer, Firmicus Maternus of the fourth century A.D., was again careful to note the relationship between triplicities and winds. Between them, the three sources indicate a continuous tradition for one small facet of astrological doctrine extending over eight hundred years. Later astrological sources continued to use the triplicities, but like Manilius, most dealt with them purely as received wisdom, and did not seek a physical explanation in wind directions.

QUARTILE

Manilius, astronom. 287-296.
Geminos, II, 16-26.

Three squares can be inscribed within the zodiac by joining points separated by 90 degrees and two signs.



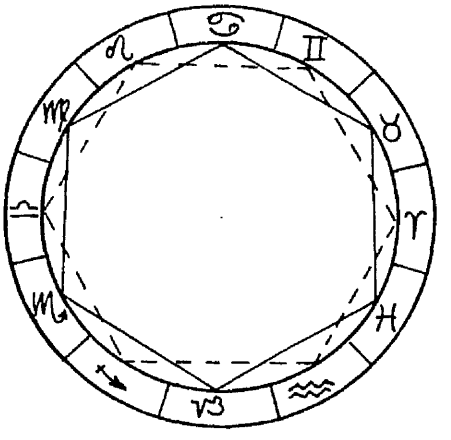
Quartile aspect was regarded as generally inharmonious. Whereas signs in a triplicity were always of a single sex, the quadrata included both masculine and feminine signs.

ASPECTS, continued. APPENDIX A.5.

SEXTILE

Manilius, Astronom. 358-384.

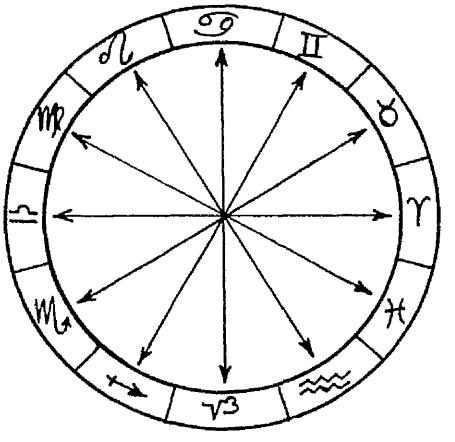
Joining points on alternate signs produces a hexagon. Astrological dogma regarded the zodiacal signs as male and female in alternating order, stipulating that Aries and Libra, the first sign in each of the two hemispheres, were masculine. (Ptolemy, Tetrabibl. I, 12; Manilius, Astronom. II, 150-154). Thus, the two zodiacal hexagons, joining alternate signs, were composed entirely of signs of one sex. The masculine hexagon comprises Aries, Gemini, Leo, Libra, Sagittarius, and Aquarius; the feminine hexagon contains Taurus, Cancer, Virgo, Scorpio, Capricorn, and Pisces. The hexagons were said to be harmonious, bound by the ties of sex.



OPPOSITION

Geminos, II, 2-5.

The term was applied to points on the zodiacal circle separated by 180 degrees. This aspect was regarded as one of hostility, and is probably of Babylonian origin. While not explicitly described in known cuneiform sources, it is implied in the arrangement of the Exaltations (Appendix A.2.).



CONJUNCTION

When the sun, moon or planets occupy positions within a few degrees of each other in the same sign, they are said to be in conjunction. Conjunctions were well-known in Babylonian astronomical and astrological texts.

MONUMENTS

The Aspects can be recognized in some examples of ancient art, the earliest being triplicities on seal impressions from Uruk.

Uruk, seal impression showing the Aries, Leo, Sagittarius triplicity; second century B.C. Item no. 5.

Uruk, seal impression showing the Pisces, Cancer, Scorpio triplicity; second century B.C. Item no. 6.

Nimrud Dagh, relief showing a conjunction of Jupiter, Mercury, Mars and the moon in Leo. Item no. 12.

Horoscope gem showing a conjunction of the sun, Venus and Mercury in Cancer, and a conjunction of the moon and Jupiter in Libra. Item no. 167.

Palmyra, ceiling of the Temple of Bēl, showing the busts of planets, sun and moon surrounded by the zodiac. A design insistance on the propitious hexagons in this work suggests a reference to the sextile Aspect. Item no. 126.

Bir Chana, mosaic floor showing the zodiac surrounding busts of the sun, moon and planets. The design is based on triangles, hexagons and circles, presumably referring to the Aspects. There is a notable absence of the unlucky square, but the animal attributes of the gods which are <u>not</u> constellations are differentiated from the celestial motifs by being enclosed in rectangles. Item no. 90.

APPENDIX A.6.

THE DECANS

The decans were an Egyptian contribution to antique astrology. Initially, they had a practical purpose, being stars or constellations that rose one after the other at hourly intervals, selected to indicate the hours of the night. They were called "decans" because each ten days one vanished below the horizon and another rose to take its place. Thus there were thirty-six decans, as a year was reckoned as twelve months of thirty days each. They are known first from Old Kingdom coffin lids, dating from the ninth to the twelfth dynasties, [1] and seem to have been drawn primarily from stars south of the ecliptic. Decanal lists varied slightly, but there were two main lists, [2] hence the two sets on the Esna zodiac, one above and one below the signs. Iconographically, they appear on the monuments as deities, some being depicted as serpents, others shown as human figures with a human or animal head.

Towards the beginning of the Hellenistic period the decans were conceptually associated with the zodiac. Once this happened they gradually lost their old time-keeping function and were regarded as ten-degree divisions of the ecliptic, three decans for each zodiacal sign. Evidently this occured by the third century B.C., as the association was portrayed on the lost zodiac from Esna (Item no. 14). In time the variant decanal lists seem to have been rationalized into a single list, though some variations continued to occur. The original lists are known from hieroglyphic inscriptions. Later decanal names are known principally from a Greek list preserved by Hephastion of Thebes, and a Latin list given by Firmicus Maternus. In addition, there are now the ivory diptychs found in France (Item no. 162), which also preserve decanal names. The list given here is from Firmicus Maternus, Mathes. II, iv.

ARIES	GEMINI	LEO	LIBRA
Senator	Thesogar	Craumonis	Seuichut
Sanacher	Ver	Sic	Sepisent
Sentacher	Tepis	Futile	Senta
TAURUS	CANCER	VIRGO	SCORPIO
Suo	Sothis	Thiumis	Sentacer
Aryo	Sit	Tophicus	Tepisen
Romanae	Thiumis	Afut	Sentineu

1 A.Pogo, "Calendars on coffin lids from Asyut", Isis XVII, 1932, 6-24.

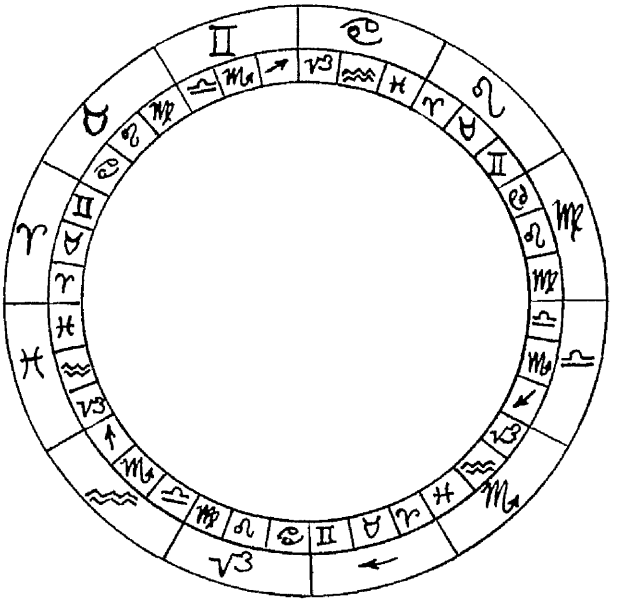
3 The early decanal lists are dealt with at length in Neugebauer and Parker, EAT, Vols II and III.

SAGITTARIUS	CAPRICORN	AQUARIUS	PISCES
Eregbuo	Themeso	Oro	Acha
Sagbn	Epiemu	Cratero	Tepibui
Chenene	Omot	Tepis	Uiu

Having been allotted their portions of the zodiac, the decans became a factor in astrology, each exerting its influence on ten degrees of ecliptic arc, and each having a specific planetary partner. A planet in its own decan was thought to be favourably placed, even if the rest of the sign was hostile to it. The decans became especially important in Alexandrian medical astrology, where certain medicinal plants and amuletic stones were selected to respond to specific decanal influences.

Manilius (Astronom. IV, 294-407) records an alternative system of decans. This system again divides the zodiac into thirty-six portions of ten degrees, but the three portions of each sign are under the influence of other signs. In the sign Taurus, for instance, the constellation Taurus exerts the strongest overall influence, but in the first ten degrees he shares his influence with Cancer, in the second ten degrees he shares his influence with Leo, and in the third ten degrees his influence is shared with Virgo. Thus, signs mask other signs. For Manilius, this accounts for the complexity and variety of the human condition, and explains why two people born under the same sign are not necessarily alike.

The signs are distributed as shown in the diagram.



By overlaying one sign with others the necessary degree of complexity is achieved without resorting to a system of foreign gods, such as the Egyptian decans.

MONUMENTS

Surviving monuments portraying the decans all seem to have originated in Egypt, though literary evidence confirms that they were known elsewhere, and were passed on to Indian and Arabic astrology.

Temple of Khnum, Esna. Lost zodiac from a ceiling (zodiac A); c. third century B.C. Item no. 14.

Temple of Khnum, Esna. Zodiac ceiling B; first century A.D. Item no. 15.

Temple of Hathor, Dendera. Circular zodiac from a ceiling; late Ptolemaic. Item no. 16.

Temple of Hathor, Dendera. Rectangular zodiac on a ceiling; first century A.D. Item no. 17.

The Bianchini planisphere. Marble plaque arranged in concentric rings, the decans in Band 5. Probably second century A.D. Item no. 164.

The Peiresc fragment, perhaps another fragment of the Bianchini planisphere. Item no. 165.

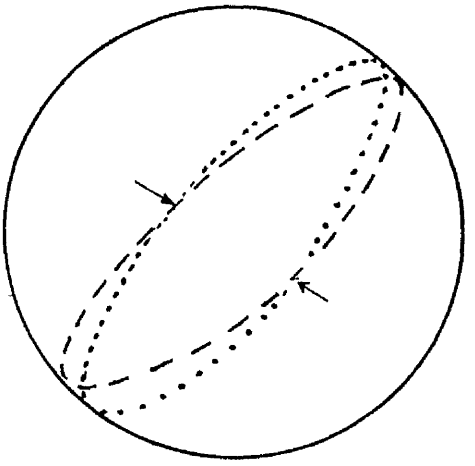
Two ivory diptychs. Arranged in concentric rings, the decans in Band 3, the names of the decans in Band 4. Item no. 162.

Tomb ceiling, Arthribis. Painted horoscopes of the brothers Ib-pmeny and Pa-mehit. A ring of decans surrounds the two zodiacs. Item no. 168.

APPENDIX A.7.

THE LUNAR NODES

The zodiac defines the path of both the sun and the moon, but the moon's path is inclined at a slight angle to the path of the sun (the ecliptic), so that twice on each monthly orbit of the earth, the moon's path crosses the ecliptic.



The points at which the paths cross are known as the lunar nodes, and it is at these two points that an eclipse can occur. If the sun and moon arrive simultaneously at the same node a solar eclipse will take place as the moon passes between the earth and the sun. If the sun and moon arrive simultaneously at opposite nodes, a lunar eclipse will result, as the earth, intervening between the sun and moon, will cast a shadow on the moon.

The nodes are always separated by 180 degrees. They are not fixed points, but revolve slowly in a westerly direction, the ascending node always exactly opposite the descending node. The true explanation of the lunar nodes was thoroughly understood in ancient astronomy, yet nevertheless, they were associated with the mythology of an eclipse dragon, his head at the ascending node, his tail at the descending node. Although the legend itself was recognised as mythology, the terminology of the legend persisted, so that even factual accounts of the nature and movement of the nodes might refer to them as the Head and Tail of the Dragon.

Inevitably, the Head and Tail of the Dragon were incorporated into some astrological systems, where they were usually treated as pseudo-planets. The earliest surviving mention is by Dorotheus of Sidon, who probably wrote in the first century A.D. His work includes a short chapter

entitled "On clarifying the phases of the moon and the Head of the Dragon and its Tail".[1] Here he notes that the Head is called the "ascending", and the Tail the "descending". Severus Sebokt,[2] writing in Syria c. A.D. 662, while assuring his readers that the Dragon does not exist, notes correctly that it moves at a rate of 3' 11" in a day and night, 1° 33' in a month, 19° 20' in a year, and makes a complete revolution in 18 years, 7 months and 16 days. In Indian and Arabic astrology the lunar nodes have already become pseudo-planets, as they have in the Mandaean Book of the Zodiac.[3] Here they can govern a zodiacal sign, or govern a year, and even have an Exaltation and a Depression, the Head being Exalted in Gemini, and the Tail in Sagittarius, with their Depressions in the opposite signs.

MONUMENTS

Dendera, the circular zodiac, Item no. 16, where the crossed arms of the supporting deities probably represent the lunar nodes.

The Ponza ceiling, Item no. 49. For a full discussion see Beck, "Interpreting the Ponza zodiac" I, JMS 1/1, 1976, 1-19 and II, JMS II/2, 1978, 87-147.

1 Translation by Pingree, 1976, p. 322.

2 Translation by Nau, Rev. de l'Orient Chrétien, XXVII, 1929-30, 254.

3 Translation by Lady Drower, 1949, 95-6.

APPENDIX A.8.

THE PLANETARY TERMS

Ptolemy, Tetrabibl. I, 20-21.
Firmicus Maternus, Mathes. II, iv.

The Terms (in Greek ὁρίων, boundaries) were reserved for the planets only, the sun and moon being omitted from the arrangement. Each zodiacal sign was divided into five unequal portions and the parts allocated among the planetary deities. Thus, the planets had a share in the rulership of every sign, a planet in its own Term being regarded as favourably placed, or strengthened. Ptolemy recorded two variant systems, attributing one to the Egyptians, and the second to the Chaldeans. He criticized both systems, apparently finding them less than rational, and proposed a third; for this he professed the authority of an ancient, almost illegible manuscript which he claimed to have found (Tetrabibl. I, 21).

The system reproduced below is the one Ptolemy attributed to the Egyptians. It was also recorded by Firmicus Maternus, and has been chosen here because it appears on three extant astrological planispheres.

Aries	1-6 Jup.	7-12 Ven.	13-20 Merc.	21-25 Mars	26-30 Sat.
Taurus	1-8 Ven.	9-14 Merc.	15-22 Jup.	23-27 Sat.	28-30 Mars
Gemini	1-6 Merc.	7-12 Jup.	13-17 Ven.	18-24 Mars	25-30 Sat.
Cancer	1-7 Mars	8-13 Ven.	14-19 Merc.	20-26 Jup.	27-30 Sat.
Leo	1-6 Jup.	7-11 Ven.	12-18 Sat.	19-24 Merc.	25-30 Mars
Virgo	1-7 Merc.	8-17 Ven.	18-21 Jup.	22-28 Mars	29-30 Sat.
Libra	1-6 Sat.	7-14 Merc.	15-21 Jup.	22-28 Ven.	29-30 Mars
Scorpio	1-7 Mars	8-11 Ven.	12-19 Merc.	20-24 Jup.	25-30 Sat.
Sagittarius	1-12 Jup.	13-17 Ven.	18-21 Merc.	22-26 Sat.	27-30 Mars
Capricorn	1-7 Merc.	8-14 Jup.	15-22 Ven.	23-26 Sat.	27-30 Mars
Aquarius	1-7 Merc.	8-13 Ven.	14-20 Jup.	21-25 Mars	26-30 Sat.
Pisces	1-12 Ven.	13-16 Jup.	17-19 Merc.	20-28 Mars	29-30 Sat.

(The numbers represent portions of the thirty degrees in each sign.)

MONUMENTS

The planetary Terms, given in Greek and using the system of the Egyptians (above), appear on the Bianchini planisphere, Item no. 164 and on the ivory diptychs from France, Item no. 162.

APPENDIX A.9.

THE DODECAOROS

The dodecaoros divides the twenty-four hours of the day and night into twelve double-hours and allots an animal symbol to each. These were given a set relationship to the zodiac.

The zodiac measures the sun's path through the seasons, each sign symbolizing one of the twelve months. Similarly, earth's daily rotation ensures that each sign will pass overhead once in twenty-four hours. Thus, the signs that measure one-twelfth of the year, also measure one-twelfth of the day, as a new sign will begin to rise over the eastern horizon every two hours. The animals of the dodecaoros were linked with specific zodiacal signs in a fixed order, as follows:

1	Aries	- Cat;	7	Libra	- Goat;
2	Taurus	- Dog;	8	Scorpio	- Bull;
3	Gemini	- Serpent;	9	Sagittarius	- Falcon;
4	Cancer	- Scarab;	10	Capricorn	- Baboon;
5	Leo	- Donkey;	11	Aquarius	- Ibis;
6	Virgo	- Lion;	12	Pisces	- Crocodile.

Thus, according to this system, the double-hour in which Aries rose would be under the astrological influence of the Cat, while the double-hour of Leo's rising would be influenced by the Donkey. The dodecaoros recognized an astrological difference between the influence of the hours and the months, though in fact each is measured by the signs. The various animals would be thought to have their own characteristics, which they exert in turn, providing an additional set of influences to complicate astrological predictions.

The dodecaoros is known from fragments of the work of Teucer the Babylonian,[1] and from two monuments. Teucer, for whom Pingree[2] has suggested a date in the first century A.D., whether or not he was genuinely a Babylonian, must have spent some time in Egypt, as the choice of the twelve creatures suggests that the system had an Egyptian origin. Creatures such as the Ibis, crocodile, falcon and baboon were regarded as sacred in Egypt, and were associated with well-known deities.

1 See F.Boll, Sphaera, 17-21, 41-52. Also CCAG 5, 4, pp. 123; CCAG 7, 194 ff.

2 D.Pingree, Yavanajātaka, vol.II, 442.

MONUMENTS

The animals of the dodecaoros were portrayed on two astrological monuments, indicating that the system must actually have been in use, and reasonably well-known.

The Bianchini plaque, a planisphere used for casting horoscopes, Item no. 164

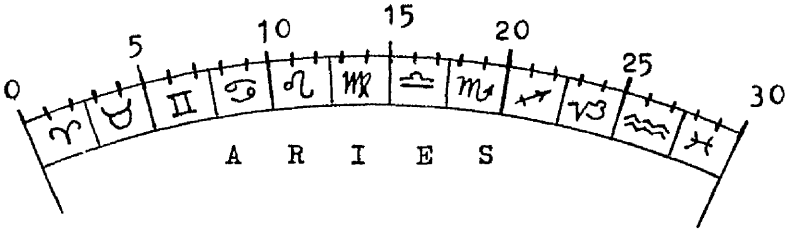
Daressy's plaque, also for casting horoscopes, Item no. 161.

Both works seem to have originated in Graeco-Roman Egypt.

APPENDIX A.10

THE DODECATEMORIA

Each sign in turn exerts its influence on one-twelfth ($2\frac{1}{2}°$) of every other sign. The sequence of the influences follows the natural order of the signs. The first $2\frac{1}{2}°$ of any sign are under its own influence, the second $2\frac{1}{2}°$ under the influence of the next sign in order, and so on. Aries, for instance, receives the influences as follows:



These twelve divisions are known as Dodecatemoria.

To find the Dodecatemoria place affecting a planet, a simple formula was used:

(n x 12) + n, where n represents the number of degrees of the sign on which the planet is standing.

For instance, if the planet is at Aries 8°, the Dodecatemoria place will be found as follows:

8 x 12 = 96 + 8 = 104 degrees. These degrees are counted from the beginning of the sign in which the planet stands, marking off a sign for each thirty degrees: 104° = three full signs, and 14° over. Thus, the Dodecatemoria place influencing the planet is Cancer 14°.

The doctrine was recorded by Manilius (Astronom. II, 693-734) who did not seem to know of a Latin term for it, but insisted that the Greek word was the most appropriate. The Dodecatemoria are also mentioned in the papyri P.Lond. 98 and 130 (published Kenyon, 1893), and other sources are discussed by Bouché-Leclercq (L'astrologie Grecque, 300 ff).

Dodecatemoria places were assumed to be a Greek contribution to ancient astrology until the doctrine was recognized in an astrological cuneiform text by Neugebauer and Sachs.[1] The texts are from the Morgan Library Collection (MLC 1886 and 1859), their orthography indicating an origin in Achaemenid period.

1 O.Neugebauer, A. Sachs, "The 'Dodecatemoria' in Babylonian astrology", AfO, XVI, 1952-3, 65-66.

APPENDIX A.11.

THE SOTHIC CYCLE

Sirius, the bright star in the Dog constellation, was known to the Egyptians as Sothis, and deemed to be a form of the goddess Isis. Its heliacal rising heralded the coming of the innundation from the Nile and determined the beginning of the New Year in the religious calendar. The Egyptian civil calendar recognized an adjusted lunar year of 365 days, that is, twelve months of thirty days each, with an additional five days at the end of the year. It was thus approximately one-quarter of a day less than the sidereal year, measured by the heliacal rising of Sothis. Because these fractions were disregarded, the civil calendar deviated by an additional quarter of a day each year from the Sothic calendar, until in the course of 1461 years, the quarter days mounted up to a full year. Then, for four years Sothis again rose on the first day of the month Thoth, New Year's Day in the civil calendar. According to Censorinus (De die natali 18) this event took place in A.D. 139.

R.A.Parker [1] noted that the heliacal rising of Sothis had been used to determine the beginning of the year since early in the third millennium B.C., and thus the event described by Censorinus had probably occurred twice before, not in 1322 B.C. and in 2782 B.C. as might be expected, but because Sirius itself is moving, probably in 1317 B.C. and 2773 B.C. Parker also mentioned that the Egyptians used three seasons of four months each, as follows:

1, Akhet, flood or innundation;
2, Peret, emergence
3, Shomu, low water, or harvest.

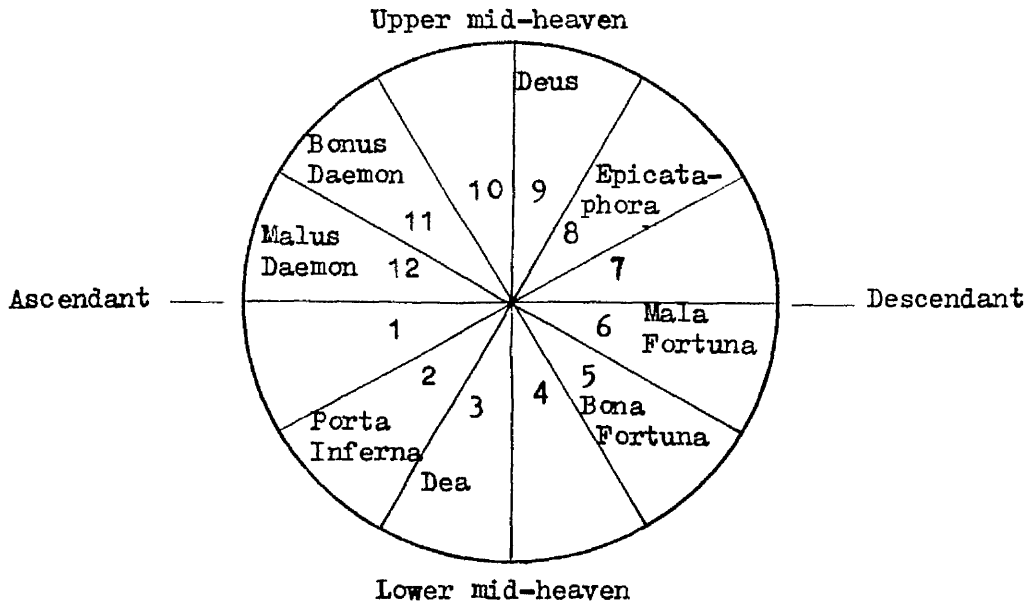
1 R.A.Parker, "The calendars and chronology", in the Legacy of Egypt, 1971, 13-26.

APPENDIX A.12.

THE TWELVE PLACES

The twelve places were used by astrologers as indicators of the astral influences on the various phases of the subject's life. Variant systems were known, and the example described here is the one given by Firmicus Maternus (Mathes. II, 15 ff.) and Sextus Empiricus (Adv. astrol. 12-20). Its origin is unknown.

The celestial circle was divided into twelve segments, beginning from the Ascendant and moving in a counterclockwise direction, the places named and numbered as in the diagram.



The Places were superimposed over the zodiacal circle, counting from from the degree of the sign on the Ascendant at the moment of the subject's birth. For instance, if the twelfth degree of Virgo was on the Ascendant, the first Place would consist of the succeeding thirty degrees that will follow it over the eastern horizon, e.g., from Virgo 11 degrees, to Leo twelve degrees, and so on through the remaining Places, the thirty degrees of each Place not necessarily co-inciding with a complete sign. The Places were scanned for influences according to the following key:

Place 1 Life and character; determined the general trend of the horoscope.

2 Personal hopes and material posessions.

3 Brothers

4 Parents, family property.

THE TWELVE PLACES, continued. APPENDIX A. 12.

Place 5 Children.

6 Physical infirmities and sickness.

7 Marriage.

8 Concerning death.

9 Social strata, religion, travel.

10 Life, honours, preferments, career.

11 Friendships, good fortune.

12 Enemies, defects, illnesses, misfortunes.

APPENDIX A. 13.

SATURN-JUPITER CONJUNCTIONS

In Islamic astrology, and evidently also in Sasanian astrology, the most important of the planetary conjunctions was the meeting of Saturn and Jupiter. According to al-Biruni,[1] a conjunction of Saturn and Jupiter takes place every twenty years, and is known as the Lesser Conjunction. He relates that two successive conjunctions are separated by nine signs, and thus occur within the same triplicity. For instance, a conjunction in Aries would be followed by one in Sagittarius, while the succeeding one would be in Leo, and the one after return to Aries, - all signs of the same triplicity (Appendix A.5.). The conjunctions continue to occur in the one triplicity for 240 years (twelve conjunctions) and then move to the next triplicity, Taurus, Capricorn, Virgo. The change from one triplicity to the next was known as the Middle Conjunction, or Transfer. The Saturn-Jupiter conjunctions complete a circuit of the triplicities and return to the starting point after a period of 960 years, this being known as the Great Conjunction.

Saturn-Jupiter conjunctions do not seem to have had a major rôle in Graeco-Roman astrology, but according to early Islamic sources [2] Sasanian astrologers used them as a means of explaining history. The Lesser Conjunctions were thought to direct the ordinary course of political events; the transitions governed more important happenings, such as the rise and fall of dynasties; the Great Conjunctions controlled events of universal significance, such as the birth of a major prophet.

1 Al-Biruni, Elements of the art of astrology, English translation by R.Ramsay Wright, 1934, 250 , p. 151.

2 D.Pingree, "Historical horoscopes", JAOS LXXXII, 1962, 487-502. Idem, The thousands of Abū Ma'shar, 64, 72, 76, 93.

APPENDIX A.14.

KEY TO THE SYMBOLS OF ZODIACAL SIGNS AND PLANETS

♈	Aries	♎	Libra
♉	Taurus	♏	Scorpio
♊	Gemini	♐	Sagittarius
♋	Cancer	♑	Capricorn
♌	Leo	♒	Aquarius
♍	Virgo	♓	Pisces

♄	Saturn
♃	Jupiter
♂	Mars
♀	Venus
☿	Mercury

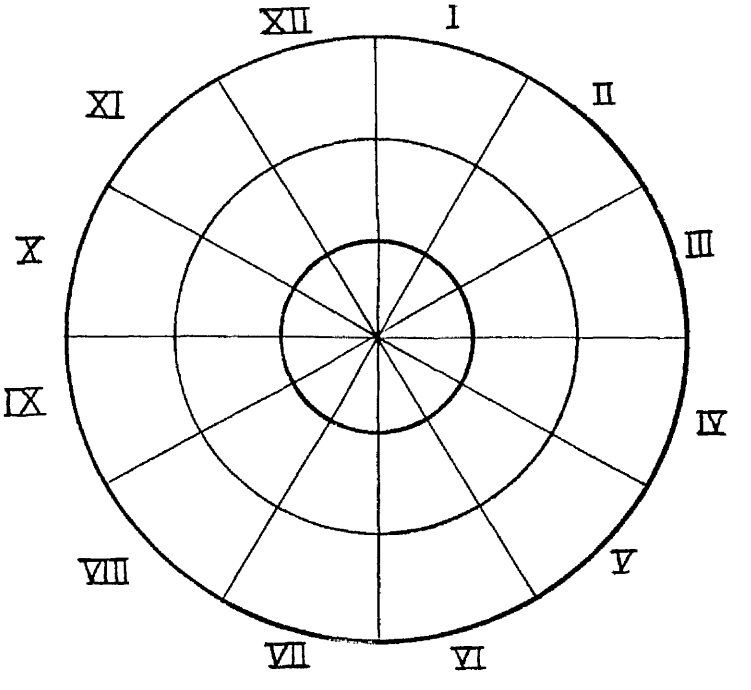
APPENDIX A.15.

THE MESOPOTAMIAN "ASTROLABES"

The diagram below shows the arrangement of the Mesopotamian star-lists, the so-called "astrolabes", known from the period towards the end of the second millennium B.C.

Each segment of the circle represents one month, the months proceeding in clockwise order from one to twelve. The twelve segments were subdivided into three, to contain the names of stars of the three celestial "Paths", the Paths of Anu, Enlil and Ea. Three "time-keeper" stars, whose rising could be used to check the accuracy of the lunar calendar, were listed for each month, ideally with one star for each of the three "Paths".

The circular format is of considerable interest, as it shows the year already characterized diagrammatically by the form used in later centuries for the zodiac: a ring divided into twelve equal segments. Compare the format of the Graeco-Egyptian planispheres of more than one thousand years later, in Pls 117, 118, 119. Although elaborations have been added, the format is remarkably similar.



Segment I would contain the names of three stars rising in the month Nisannu
" II " " " " " " " " " " " Aiaru
and so on.

SOURCES, quoted in Chapters 4 and 5. APPENDIX B

Euripides, Ion, 1146 ff.

On a canopy embroidered with the figures of constellations.

ἐνῆν δ' ὑφαντὰ γράμμασιν τοιαῖδ' ὑφαί,
Οὐρανὸς ἀθροίζων ἄστρ' ἐν αἰθέρος κύκλῳ.
ἵππους μὲν ἥλαυν' ἐς τελευταίαν φλόγα
Ἥλιος, ἐφέλκων λαμπρὸν Ἑσπέρου φάος·
μελάμπεπλος δὲ Νὺξ ἀσείρωτον ζυγοῖς
ὄχημ' ἔπαλλεν, ἄστρα δ' ὠμάρτει θεᾷ·
Πλειὰς μὲν ἦει μεσοπόρου δι' αἰθέρος
ὅ τε ξιφήρης Ὠρίων, ὕπερθε δὲ
Ἄρκτος στρέφουσ' οὐραῖα χρυσήρη πόλῳ·
κύκλος δὲ παντέλήνος ἠκόντιζ' ἄνω
μηνὸς διχήρης, Ὑάδες τε, ναυτίλοις
σαφέστατον σημεῖον, ἥ τε φωσφόρος
Ἕως διώκουσ' ἄστρα.

On it were woven figures, Uranus setting the stars in the vault of heaven, the Sun driving his horses towards their setting, bringing after him the clear light of the evening star; dark-robed Night urging her pair of steeds, and around the goddess thronging stars; the Pleiads advancing through mid-heaven, and Orion with his sword, and above, the Bear sweeping her golden tail through through the skies; the full moon who divides the months darting her rays, and the Hyades, surest of signs to sailors, and Dawn, the bringer of light, chasing the stars away.

Diodorus, II, 30, 6

On the thirty stars designated "counselling gods".

6 Ὑπὸ δὲ τὴν τούτων φορὰν λέγουσι τετάχθαι τριακοντα ἀστέρας, οὓς προσαγορεύουσι βουλαίους θεούς· τούτων δὲ τοὺς μὲν ἡμίσεις τοὺς ὑπὲρ γῆν τόπους ἐφορᾶν, τοὺς δ' ἡμίσεις τοὺς[3] ὑπὸ τὴν γῆν, τὰ κατ' ἀνθρώπους ἐπισκοποῦντας ἅμα καὶ τὰ κατὰ τὸν οὐρανὸν συμβαίνοντα· διὰ δ' ἡμερῶν δέκα πέμπεσθαι τῶν μὲν ἄνω πρὸς τοὺς κάτω καθάπερ ἄγγελον ἕνα τῶν ἀστέρων,

τῶν δ' ὑπὸ γῆν πρὸς τοὺς ἄνω πάλιν ὁμοίως ἕνα, καὶ ταύτην ἔχειν αὐτοὺς φορὰν ὡρισμένην καὶ περιόδῳ κεκυρωμένην αἰωνίῳ.

Diodorus, II, 31, 4.

On the stars called "Judges of the universe".

Μετὰ δὲ τὸν ζῳδιακὸν κύκλον εἴκοσι καὶ τέτταρας ἀφορίζουσιν ἀστέρας, ὧν τοὺς μὲν ἡμίσεις ἐν τοῖς βορείοις μέρεσι, τοὺς δ' ἡμίσεις ἐν τοῖς νοτίοις τετάχθαι φασί, καὶ τούτων τοὺς μὲν ὁρωμένους τῶν ζώντων εἶναι καταριθμοῦσι, τοὺς δ' ἀφανεῖς τοῖς τετελευτηκόσι προσωρίσθαι νομίζουσιν, οὓς δικαστὰς τῶν ὅλων προσαγορεύουσιν.

SOURCES, quoted in Chapters 5 and 6. APPENDIX B

Athenaeus, Deipnosophistae, XII, 535.

Concerning a chlamys worn by Demetrius Poliorcetes.

αἱ δὲ χλαμύδες αὐτοῦ ἦσαν
ὄρφνινον ἔχουσαι τὸ φέγγος τῆς χρόας, τὸ δὲ πᾶν
ἐνύφαντο χρυσοῦς ἀστέρας ἔχον· καὶ τὰ δώδεκα
ζώδια.

AP 9, 25.

Epigram by Leonidas of Tarentum in honour of Aratus.

Γράμμα τόδ' Ἀρήτοιο δαήμονος, ὅς ποτε λεπτῇ
φροντίδι δηναιοὺς ἀστέρας ἐφράσατο,
ἀπλανέας τ' ἄμφω καὶ ἀλήμονας, οἷσιν ἐναργὴς
ἑλλόμενος κύκλοις οὐρανὸς ἐνδέδεται.
αἰνείσθω δὲ καμὼν ἔργον μέγα, καὶ Διὸς εἶναι
δεύτερος, ὅστις ἔθηκ' ἄστρα φαεινότερα.

Diogenes Laertius, VI, 102.

Concerning a zodiac hat worn by Menedemus.

ἦν δὲ αὐτῷ ἡ ἐσθὴς
αὕτη· χιτὼν φαιὸς ποδήρης, περὶ αὐτῷ ζώνη
φοινικῆ, πῖλος Ἀρκαδικὸς ἐπὶ τῆς κεφαλῆς ἔχων
ἐνυφασμένα τὰ δώδεκα στοιχεῖα, ἐμβάται τραγικαί,
πώγων ὑπερμεγέθης, ῥάβδος ἐν τῇ χειρὶ μειλίνη.

Inscription from Larisa, Thessaly, of the second century B.C., mentioning a "Chaldean astronomer". See CQ XXXIII, 1983, 491.

Ἀντίπατρος Ἀντιπάτρου
Ἱεροπολίτης τῆς Σελευκίδος, πεπολιτογραφημένος [δὲ] ἐν Ὁμολίῳ ὑπάρχων
Χαλδαῖος ἀστρονόμος, ἐνδημῶν τῇ πόλει ἡμῶν ἀπὸ χρόνων.[1]

AP 9, 552

A sword for Piso

καὶ Μακεδὼν ὁ σίδηρος ἐν ἄορι καὶ τὰ πρὸς ἀλκήν
τῆς ἀπ' Ἀλεξάνδρου χειρὸς ἐπιστάμενος,
Πείσων, σὴν ποθέων ἰκόμην χέρα, τοῦτο δὲ φωνῶ·
'χαίρων δεξιτερὴν εὗρον ὀφειλομένην.'

SOURCES, quoted in Chapters 8 and 14 APPENDIX B

Ptolemy, Tetrabibl. II, 3.

Τοῦ δὲ δευτέρου τεταρτημορίου τοῦ κατὰ τὸ νότιον μέρος τῆς μεγάλης Ἀσίας τὰ μὲν ἄλλα μέρη τὰ περιέχοντα Ἰνδικήν, Ἀριανήν, Γεδρωσίαν, Παρθίαν, Μηδίαν, Περσίδα, Βαβυλωνίαν, Μεσοποταμίαν, Ἀσσυρίαν, καὶ τὴν θέσιν ἔχοντα πρὸς νοταπηλιώτην τῆς ὅλης οἰκουμένης, εἰκότως καὶ αὐτὰ συνοικειοῦται μὲν τῷ νοταπηλιωτικῷ τριγώνῳ τοῦ Ταύρου καὶ Παρθένου καὶ Αἰγόκερω, οἰκοδεσποτοῦνται δὲ ὑπὸ[2] τοῦ τῆς Ἀφροδίτης καὶ τοῦ Κρόνου ἐπὶ εἰώων σχηματισμῶν· διόπερ καὶ τὰς φύσεις τῶν ἐν αὐτοῖς ἀκολούθως ἄν τις εὕροι τοῖς ὑπὸ τῶν οὕτως οἰκοδεσποτησάντων ἀποτελουμένας· σέβουσί τε γὰρ τὸν μὲν τῆς Ἀφροδίτης Ἶσιν ὀνομάζοντες, τὸν δὲ τοῦ Κρόνου Μίθραν ἥλιον.[3]

Epitaph of the Phrygian astrologer, Epitynchanos. From A.Souter, "Greek metrical inscriptions from Phrygia", Classical Review, 1897, 136-7.

[εις.
εἰσβιὰς ?]ων οἴμους πολι[π]ειρ[ή]τοιο κέλευθον
ἦλυθες ἀ[μφὶ κ]όρης [π]ώματος ἱδροσύνας,
τέρπει δ' ἀψίδεσσι πολυτροχά[λ]οις ἐνὶ κέντρ[ο]ις
ἀντυγος αἰθερίης τείρεσι λαιπομέναις,
ἠελίῳ τ' ἀνὰ μέσσα πολυ[φ]εγγεῖ τε σελήνῃ,
ἐξ ὧν δὴ πάντων ἔστι βίος μερόπων.
ἐν τ...το[ι]ς φύεται τρέφεται γήρᾳ τε τελεῖται
ζωῆς κ(αὶ) θαιάτου κλῆρος ἐν οἷς πέλεται.
τῆσδ' μαθημοσύνης Ἐπιτύνχανον ἔδριν ἐόντα,
πνοιῆς δ' ἀ[π]λάνητους εἰδότα μαντοσύνας,
θέσφατά τ' ἀνθρώποισιν ἀληθέα φημίζοντα
ὄντων μέλλοντων ἐσσομένων πρότερο[ν.
ἄστεσι δ' ἐν πολλοῖσιν ἰθαγενέων λάχε τειμάς,
λείψας κ(αὶ) κοίρους οὐδὲν ἀφαυροτέρους.
σφῇ δ' ἀρετῇ κ(αὶ) μέτρα δαεὶς κ(αὶ) πείρατα κόσμου
εἰς ὄρ(φ)νην ἱκόμην πᾶσιν ὀφειλομένην.

Nonnos, Dionys. VI, 58-73

Οὐδὲ γέρων Ἀστραῖος ἀναίνετο· μουνοτόκου δὲ
κούρης ἀρτιλόχευτα γενέθλια μέτρα νοήσας
καὶ χρόνον οὐ πταίοντα καὶ ἀπλανέος δρόμον Ὥρης
ἀρχεγόνου, κάμψας δὲ μετάτροπα δάκτυλα χειρῶν
ἀμφὶ παλιννόστοιο μετήλυδα κύκλον ἀριθμοῦ
ἐκ παλάμης παλάμῃ διεμέτρεε δίζυγι παλμῷ·
καί οἱ κεκλομένῳ θεράπων εὔκυκλον ἀείρας
σφαῖραν ἑλισσομένην, τύπον αἰθέρος, εἰκόνα κόσμου,
Ἀστερίων παρέθηκε λαβὼν ἐπὶ πώματι χηλοῦ.
ἔνθα γέρων πεπόνητο, καὶ ἄξονος ἄκρον ἑλίσσων
Ζῳδιακὸν περὶ κύκλον ἑὴν ἐτίταινεν ὀπωπὴν
λεύσσων ἔνθα καὶ ἔνθα καὶ ἀπλανέας καὶ ἀλήτας·
καὶ πόλον ἀμφελέλιζε· πολυστροφάλιγγι δὲ ῥιπῇ
εἰς δρόμον ἀστήρικτον ἀτέρμονι κάμπτετο νύσσῃ
ἄστρασι ποιητοῖσι νόθος κυκλούμενος αἰθήρ,
ἄξονι μεσσατίῳ τετορημένος·

SOURCES, quoted in Chapter 14. APPENDIX B

Pseudo-Callisthenes, Alexander Romance, I, 4.

καὶ βαλὼν τὴν χεῖρα αὐτοῦ ἔνδον <τοῦ κόλπου> αὐτοῦ ἐξήγαγε πινακίδιον ὅπερ λόγος ἑρμηνεῦσαι οὐ δύναται, χρυσίῳ μὲν καὶ ἐλεφαντίνῳ διακείμενον, ἔχον ἀστέρας ἑπτὰ καὶ ὡροσκόπον, ἥλιόν τε καὶ σελήνην. καὶ ὁ μὲν ἥλιος ἦν κρυστάλλινος, ἡ δὲ σελήνη ἀδαμαντίνη, ὁ δὲ λεγόμενος Ζεὺς ἀέριος, <ὁ δὲ Ἄρης αἱματίτης, ὁ δὲ Κρόνος> ὀφίτης, ἡ δὲ Ἀφροδίτη σαπφείρινος, ὁ δὲ Ἑρμῆς σμαράγδινος, ὁ δὲ ὡροσκόπος λύγδινος. θαυμάσασα δὲ ἡ Ὀλυμπιὰς τὴν τοῦ πίνακος πολυτέλειαν παρακάθηται τῷ Νεκτεναβῷ κελεύσασα πάντας ἀποστῆναι καὶ λέγει πρὸς αὐτόν· "προφῆτα, σκέψαι περὶ ἐμοῦ καὶ Φιλίππου τὴν γέννησιν." ἐφημίζετο γὰρ περὶ αὐτῆς, ὅτι ἐὰν παραγίνηται Φίλιππος ἀπὸ τοῦ πολέμου, ταύτην ἀποβάλλεται καὶ ἑτέραν γαμεῖ. ὁ δὲ Νεκτεναβὼ εἶπε πρὸς αὐτήν· "θὲς τὴν σὴν γέννησιν, θὲς καὶ τοῦ Φιλίππου." καὶ τί λοιπὸν ποιεῖ ὁ Νεκτεναβώ; τίθησι καὶ τὴν ἑαυτοῦ γέννησιν πρὸς τὴν τῆς Ὀλυμπιάδος καὶ ψευσάμενος εἶπε πρὸς αὐτήν· "οὐκ ἔστι ψεῦδος ἣν ἀκούεις φήμην περὶ σοῦ. δύναμαι δέ σοι ὡς Αἰγύπτιος προφήτης βοηθῆσαι τοῦ μὴ ἀπόβλητόν σε γενέσθαι ὑπὸ Φιλίππου." ἡ δὲ εἶπεν· "πῶς δύνασαι;"

The Syriac version, giving the whole of IV.

6

IV ...

7 ܡܠܟܐ ܕܡܩܕܘܢ

ܐ ܗܘܝܢ ܕܒܥܝ ܠܗܘ ܠܡܫܕܐ ܕܢܗܘ ܠܗ ܫܘܠܛܢܐ ܥܠ ܟܠ ܡܠܟܘܬܐ ܀ ܡܢ ܗܢܐ ܕܐܬܐ ܠܗ ܠܓܒܪܐ ܕܢܫܬܘܩ ܠܗ ܡܢ ܟܠ ܡܠܟܘܬܐ ܀ ܘܐܦ ܠܐ ܢܫܬܘܩ ܠܗ ܡܢ ܟܠ ܡܠܟܘܬ

9 ...

...[1]. ...

...[5] ...

...[7] ...

...[10]. ...

...[11]. ...

10 ...

...[1] ...

Alexander Romance, (Syriac version), continued.

11 ܡܠܟܐ ܕܡܩܕܘܢܝܐ

ܗܘ ܕܟܬ ܒܝܬ ܡܠܟܐ ܕܒܒܠ ܘܕܡܨܪ ܘܕܐܬܘܪ ܘܕܟܠ ܐܪܥܐ ܕܡܕܝܐ ܘܕܦܪܣ ܘܕܟܠ ܐܪܥܐ ܕܡܕܝ ܘܕܐܬܘܪ ܘܕܟܠ ܐܪܥܐ ܕܡܕܝ ܘܕܦܪܣ

'En Gedi. The mosaic inscription from the synagogue.

אדם שת אנוש קינן מהללאל ירד
חנוך מתושלח למך נוח שם חם ויפית

סלה שור תאומים סרטן ארי בתולה
מאזניים עקרב קשת גדי ודלי דגים
ניסן אייר סיון תמוז אב אילול
תשרי מרחשון כסליו טבית שבט
אדר אברהם יצחק ויעקב שלום
חניה מישאיל ועזריה שלום על ישראל

דכירין לטב יוסה ועזרון וחזיקיו בנוה דחלפי
כל מן דיהיב פלגו בן גבר לחבריה הי אמר
לשן כיש על חבריה לעמיה הי גניב
עבותיה דחבריה הי מן דגלי רזה דקרתה
לעמיה דין דעינוה משוטטן בכל ארעה
וחפי סתירתה הוא יתן אפוה בגברה
ההו ובזרעיה ויעקור יתיה מן תחות שומיה
ויסרון כל עמה אמן ואמן סלה

רבי יוסה בר חלפי חזקיו בר חלפי דכירין לטב
דמני סגי הגון עבדו לשמה דרחמנה שלום

CATALOGUE OF ZODIAC MONUMENTS

The following is a list of monuments that display the full zodiac cycle, or have groups of signs in various combinations. Items on which a zodiacal sign is shown in isolation will not be included unless it has been discussed in the text, or unless no proof is required to show that it is zodiacal. Effectively, this will limit examples of single signs to figures such as Capricorn and Sagittarius.

Part 1.A. Greek art before Alexander.

Item no.

1 THE NEW YORK SAGITTARIUS GEM. Agate gemstone showing a galloping Sagittarius with five stars in the field. Probably of East Greek workmanship. Attributed to the fifth century B.C. Text, p. 105-7, Pl. 59 . Now in the Metropolitan Museum, New York.
Richter, Catalogue of Engraved gems, Greek, Etruscan and Roman, p.66, no. 67, Pl. XI.
Boardman, Greek gems and finger rings, p. 195, Fig. 201.

2 THE RUVO ZODIAC VASE. A painted vase of the fourth century B.C. portraying Atlas in conversation with a sphinx. The Titan carries a celestial sphere crossed by the zodiacal band, of which three signs can be seen. Modern restorations to the vase leave some uncertainty as to whether the zodiac was originally part of the design. Text, p. 104 Fig. 42 . Now in the Archaeological Museum, Naples (Inv. 81521-H).
Daremburg and Saglio, DdA, I, 487, Fig. 576; 528, Fig. 617.
Beazley, ARV /2, 1338.
PW "Z" no. 146, col. 655.

Part 1.B. Third century B.C. Zodiacs from literary sources.

3 ZODIAC CHLAMYS, worn by Demetrius Poliorcetes. Athenasias, XII, 535.
"His short cloaks were dark and sheeny, the whole of them being woven with golden stars and the twelve zodiacal signs".
Above, p. 116.
Fleischer, Artemis von Ephesos, 72.

CATALOGUE OF ZODIAC MONUMENTS

Part 1.B. Third century B.C. Zodiacs from literary sources, continued.

Item no.

4 ZODIAC HAT, of Menedemus. Cited from Diogenes Laertius VI, 102. Above, p. 121
Fleischer, Artemis von Ephesus, 72.

Part 1.C. Seleucid astrological bullae

5 URUK, TRIPLICITY A. A seal impression showing Aries, Leo, and Sagittarius, i.e. the astrological north-western triangle (Ptolemy Tetrabibl. I, 18; and II, 3). From the year 130 S.E. in the reign of Seleucus IV Philopater (187-175 B.C.).
Text, p. 131 Now in the Oriental Institute, Chicago (A 3760).
Rostovtzeff, "Seleucid Babylonian bullae and seals with Greek inscriptions" YCS III, 1932, 21, Pl. III, 1.

6 URUK, TRIPLICITY B. Seal impression showing Cancer, Scorpio and Pisces, i.e. the astrological south-western triangle (Ptolemy, Tetrabibl. I, 18; II, 3.)
Text, p. 132 Fig. 40 Now in the Louvre, Paris (A 810).
Delaporte, Catalogue des cylindres cachets et pierresgravées. II Aquisitions, 1923, Pl. 123.

7 URUK, MOON'S HOUSE. Seal impression portraying the Moon between Leo and Cancer, the latter being the Moon's astrological House. Text, p. 132 Fig. 41
Now in the Louvre, Paris (A806).
Delaporte, Catalogue des cylindres cachets et pierres gravées. II Aquisitions, 1923, Pl. 123.

Part 1.D. Other Hellenistic Zodiacs

8 THE BRITISH MUSEUM HELIOS GEM. Deeply convex garnet gemstone portraying the bust of Helios, radiate, surrounded by the zodiac. Delicately carved, no divisions between signs.
Text, p. 145 Pl. 63.
Walters, B.M. Catalogue of engraved gems, no. 1168, pl. XVII.

CATALOGUE OF ZODIAC MONUMENTS

Part 1.D. Other Hellenistic Zodiacs, continued.

Item no.

9 THE BRINDISI DISK Terracotta disk portraying a scene of apotheosis surrounded by a zodiac in which the Claws of Scorpio substitute for Libra. The disk is similar to terracotta disks made in Tarentum, and probably dates to the second century B.C. Text, p. 135 Pl. 61 Now in the Brindisi Museum.

Boyance, "Le disque de Brindisi" REA XLIV, 1942, 191-216.
Cumont, "Disques ou Miroirs Magiques", RA 1917, 87-107.
Wuilleumier, Tarente, des origines à la conquête romaine, 552-558.
Sciarra, Brindisi e il suo museo, Pl. 27.
Vermaseren, Liber in Deum, 48-49.
Berard. Anodoi, Essay sur l'imagerie des passages chthoniens, 23.
PW "Z" no. 147, col. 655.

10 ATHENS, LITURGICAL CALENDAR. Relief in Pentalic marble showing the zodiac signs interspersed between figures representing the yearly cycle of Athenian festivals. Scorpio's pincers have been detached to substitute for Libra. Text, p. 136-7 Pls 66 A-F
Iconography suggests the second century B.C. Crosses were cut through the relief when the blocks were re-used for the walls of the small Cathedral, Athens.
Ruelle, "Calendrium" in Daremberg and Saglio DdA II 823, Fig. 1030.
Cumont, "Zodiacus" " " " " , 1054.
Deubner, Attische Feste, 248-254.
Thiele, Himmelsbilder, 57-64.
Boyance, "Le disque de Brindisi", REA XLIV, 1942, 191-216.
Stern, Le calendrier de 354, 220-1.
PW "Z", no. 36, col. 623.

CATALOGUE OF ZODIAC MONUMENTS

Part 1.D. Other Hellenistic Zodiacs, continued.

Item no.

11 THE FARNESE ATLAS Roman copy of a Hellenistic celestial sphere, supported by a kneeling Atlas. The globe has the major declination circles and colures, and the ecliptic is outlined as a band. Constellation figures are seen from behind. The original was probably constructed towards the beginning of the third century B.C. pp. 140-5, Pl.62,Fig. 38.
Thiele, Himmelsbilder, Taf II-VI.
Schramm, Sphaira, globus, reichsapfel, 8.
Taton, La science antique et medievale I, 616.
PW "Z", no. 5, col. 614-5.

12 THE NIMRUD DAGH LEO. Relief portraying Leo with the constellation stars overlaying the lion's body. The crescent moon lies across the chest and the planets Mars, Mercury and Jupiter stand above the tail.
Dated astronomically to 7 July, 62 B.C. by Neugebauer and van Hoesen. The relief represents the coronation horoscope of Antiochus I of Commagene. Text, p.133 Pl.65.
Vermaseren, CIMRM, mon. 31.
Neugebauer and van Hoesen, Greek Horoscopes, 14 ff.
Seyrig, "Héraclès-Nergal", Syria XXIV, 1944-5, 68.
Merkelbach, Mithras, 55.
PW "Z", no. 266, col. 690.

13 BRITISH MUSEUM SCORPION AND SCALES GEM. Sardonyx gemstone engraved with a scorpion holding a set of balances.
Text, p. 137, Pl. 64.
Walters, BM Catalogue of engraved gems, no. 2526.

CATALOGUE OF ZODIAC MONUMENTS

Part 1.E. Egyptian zodiac ceilings, 300 B.C. - A.D. 100.

Item no.

14 TEMPLE OF KHNUM, ESNA. ZODIAC A. The zodiac was arranged in two rectangular panels, with six signs in each, and the planets in their Exaltations. It was lost in 1843, but had been described and drawn by earlier travellers. The temple dates to the third century B.C. (Ptolemy III Euergetes, and Ptolemy IV Philopater) and the zodiac was presumably from the same period.
Text p. 123.
Neugebauer and Parker, EAT III, Mon. 47 (with bibliography).
Porter and Moss, VI, 18-23.
PW "Z" no. 31, col. 621.

15 TEMPLE OF KHNUM, ESNA. ZODIAC B. Carved stone relief on the ceiling of the hypostyle hall, arranged in two registers, with six signs in each. Planets are shown in their Exaltations. From the reign of Vespasian or Domitian (A.D. 69-96). Text, p. 128.
Still in situ.
Neugebauer and Parker, EAT, III, 82-4, Pl. 43.
Porter and Moss, VI, 116.

16 THE CIRCULAR ZODIAC, TEMPLE OF HATHOR, DENDERA.
Circular star-map in sandstone relief from the ceiling of the East Osiris Chapel, showing the zodiac among Egyptian constellations. The planets are in their Exaltations and the decans encircle the edge of the map. Text, p. 123-6 Pl. 60. Late Ptolemaic, before 30 B.C. Now in the Louvre.
Neugebauer and Parker, EAT III, 72-74, Pl. 35.
Porter and Moss, VI, 99 ff.
Boll, Sphaera, 232-244.
Stern, Le Calendrier de 354, p. 195.
van der Waerden, "History of the zodiac", AfO, XVI, 1953, 216.
PW "Z", no. 29, col. 620.

CATALOGUE OF ZODIAC MONUMENTS

Part 1.E. Egyptian zodiac ceilings 300 B.C. - A.D. 100, continued.

Item no.

17 TEMPLE OF HATHOR, DENDERA. ZODIAC TWO. Zodiac in two registers among figures representing the hours and the decans. The planets are shown in their Houses.
From the reign of Tiberius, A.D. 14-37. Text, p. 127, Fig.68.
Still in situ.
Neugebauer and Parker, EAT III, p. 79. mon. 60, Pl. 42.
Boll, Sphaera, 159, 232.
Porter and Moss, IV, 49.
PW "Z", no. 30, col. 621.

18 TEMPLE OF MONTU AND RA^{C}TAWI, ARMANT. Constellation ceiling in the birth room, showing Orion with Taurus and Scorpio.
Dated to the reigns of Cleopatra and Ptolemy XV (44-30 B.C.).
Now lost, but described by nineteenth century travellers. p. 126.
Neugebauer and Parker, EAT III, 70.
Irby and Mangles, Travels in Egypt, 136.

19 TEMPLE OF ISIS, SHANHŪR. One roof block portraying the signs from Leo to Capricorn has been preserved.
Text p.127 Fig. 71
From the reign of Augustus or Tiberius, 30 B.C. - A.D. 37.
Neugebauer and Parker, EAT III, p. 77, mon. 58.
Porter and Moss, VI, 136.
PW "Z", no. 32, 1. col. 621.

20 TEMPLE OF MIN AND ISIS, QUIFT (KOPTOS). A reused ceiling block portraying Leo with Orion and Sothis. Ptolemaic or Roman, but prior to A.D. 54.
Text, p. 127.
Neugebauer and Parker, EAT III, 81, mon. 64.
PW "Z" no. 32, 2. col. 622.

CATALOGUE OF ZODIAC MONUMENTS

Part 2.A. The zodiac in imperial iconography.

Item no.

21 THE GEMMA AUGUSTEA. Brown and white sardonyx cameo, probably cut to mark the triumph awarded to Tiberius in A.D. 12. The emperor Augustus, seated beside the goddess Roma, is himself the focus of the composition. Just above his head a disk holding the image of Capricorn appears to float in the sky, and in a register beneath the emperor's feet, some soldiers erect a trophy. Now in the Kunsthistorisches Museum, Vienna.
Text, p. 154 Pl. 67.
A.Furtwängler, Antiken gemmen pl. LVI, and vol. III, 314.
G.Richter, Engraved gems of the Romans, no. 501, p. 104.
A.Strong, Apotheosis and afterlife, 71-72.
L.R.Taylor, The divinity of the Roman emperor, 166, 266-7.

22 AUGUSTUS CAMEO. Brown and white sardonyx cameo portraying Augustus and Capricorn with symbols suggesting a naval victory. Thought to commemorate the battle of Actium. Now in the Hermitage Museum, Leningrad. Text, p. 155, Fig. 45.
O.Neverov, Antique cameos in the Hermitage collection, pl. 71.
M.Maximova, "Un camée commémoratif de la battaille d'Actium", RA, 1929, 64 f.

23 AUGUSTUS CAMEO. Brown and white sardonyx cameo. The foreparts of two Capricorns, joined to form one double-ended beast, support between their horns the bust of Augustus in a laurel wreath. Now in the Metropolitan Museum, New York.
Text, p. 156-7, Fig. 46.
G.Richter, Engraved gems, Greek, Etruscan and Roman, no. 649.

24 AUGUSTUS CAMEO. Sardonyx cameo resembling the example in New York. Now in the Berlin Antiquarium. Text, p. 156-7.
A.Furtwängler, Beschriebung der geschnittenen Steine im Antiquarium, Berlin.1896, no. 11074.

CATALOGUE OF ZODIAC MONUMENTS

Part 2 A. The zodiac in imperial iconography, continued.

Item no.

25 LIVIA GEM. A cock-headed deity wearing a cuirass and holding a heart in one hand and a conch in the other is supported by a beast, possibly a double-ended Capricorn. Inscribed with the astrological symbols for Venus, Mars, Virgo, Capricorn, and the words CON DIV AUG LIVI DRUSI. Square format with one corner broken away, so there is perhaps a word missing from the inscription. Cut in red jasper. Now in the Bibliothèque Nationale. Text, p. 157-60. Fig. 47a, 47b.
A.Delatte and Ph. Derchain, Les intailles magiques Greco-Egyptiennes, 1964, no. 395, pp. 274-6.

26 CAPRICORN STATUE, with the inscription XXII legio primigeni. Found at a Roman camp near Mayence, now in the Musée Mayence. Text, p. 160.
E.Espérandieu, Recueil général des bas-reliefs de la Gaule Romaine, vol. VII, no. 5882.

27 RELIEF OF BULL AND CAPRICORN, with the inscription LEG(io) XXII. Now Musée Mayence. Tablet in two fragments. Text, p. 160.
E.Espérandieu, Recueil général vol. VII, no. 5869.

28 RELIEF OF CAPRICORN with a cornucopia, probably from a legionary camp. Text, p. 160
E.Espérandieu, Recueil général, vol. XIV, no. 8517.

29 RELIEF OF CAPRICORN AND PEGASUS, with the inscription LEG II AVG. Found on a building block from Hadrian's wall. Now in the British Museum (PRB OA 250). Text, p. 160.

CATALOGUE OF ZODIAC MONUMENTS

Part 2.A. The zodiac in imperial iconography, continued.

Item no.

30 HOROSCOPE CEILINGS from the palace of SEPTIMIUS SEVERUS, described by Dio Cassius (Ep. LXXVII, 11, 1):

> "Severus....made a campaign against Britain, though he knew that he should not return. He knew this chiefly from the stars under which he had been born, for he had caused them to be painted on the ceilings of the rooms in the palace where he was wont to hold court, so that they were visible to all, with the exception of that portion of the sky which, as astrologers express it, "observed the hour" when he first saw the light, for this portion he had not depicted in the same way in both rooms." (Loeb translation,

Above, p. 174-5.

F.Cramer, ARLP, 211.

K.Lehmann, "The dome of heaven", Art Bulletin, XXVII, 1945, 8.

31 ZODIAC CEILING, HARDIAN'S VILLA (lost). The ceiling, probably in stucco, is known from a drawing published by M.Ponce in 1789. It was laid out in concentric squares around a central medallion portraying a male figure in a quadriga galloping over clouds. The signs are clustered in seasonal groups of three at the four corners of the room. Text, p. 176 Fig. 48.

M.Ponce, Arabesques antiques des bains de Livie et de la ville Adrienne, Paris 1789, plate 9.

K.Lehmann, "The dome of heaven," Art Bulletin, XXVII, 1945, 5.

32 ZODIAC CEILING, HADRIAN'S VILLA (lost). Known from a drawing published by Ponce in 1789. A starry globe encircled by the zodiac with Libra in mid-heaven was at the centre of the ceiling. The globe, supported by dancers, is placed within a lozenge which in turn is supported by herms representing Pan.

Text, p. 177.

M.Ponce, Arabesques antiques des bains de Livie et de la ville Adrienne, Paris, 1789, plate 5.

K.Lehmann, "The dome of heaven", Art Bulletin, XXVII, 1945, 3.

CATALOGUE OF ZODIAC MONUMENTS

Part 2.A. The zodiac in imperial iconography, continued.

Item no.

33 COMMODUS-HERCULES The bust of the emperor Commodus portrayed as Hercules with a club and lion-skin is balanced on a base composed of a shield, crossed cornucopia, and a starry globe, supported on either side by kneeling Amazons. The globe is decorated with the oblique band of the zodiac, displaying the signs Scorpio, Capricorn and Aries. Cut in highly-polished creamy marble. Now in Rome, Palazzo dei Conservatori, no.12. Text, p. 178-80; Pl. 69.
P.E.Visconti, Bulletino della commissione archeologica del comunale di Roma, III, 1875, 11ff.
H.Stuart-Jones, Catalogue Palazzo dei Conservatori, 1926, 140.
A.Schlachter, F.Gisinger, Globus, 1929, 75, Taf.II, 57.
C.C.Vermeule,"Commodus, Caracalla and the Tetrarchs - Roman emperors as Hercules", Festschrift für Frank Brommer, 1977, 289 ff.
PW "Z", no. 4, col. 614.

34 THE ABUKIR MEDALS Three gold medals portraying on the obverse the bust of a man carrying a spear and shield, the latter decorated around the perimeter with the signs of the zodiac, of which the five signs from Aries to Leo can be seen. The bust is frontally posed in the style of Alexander portraits, but the medals are believed to date from the Roman period. Now in Berlin (Staatl. Mus. no. 230/1907). Text, p. 180 Pl. 70.
J.N.Svoronos, "ΤΑ ΝΟΜΙΣΜΑΤΟΣΗΜΑ ΤΟΥ ΑΒΟΥΚΙΡ" Journal international d'archéologie numismatique, X, 1907, 369ff.
O.Brendel, "Der schild des Achilles", Die Antike, XII, 1936, 273.
PW "Z" no. 181, col. 667.

35 APOTHEOSIS OF ANTONINUS PIUS AND FAUSTINA Relief on the base of a memorial column showing the souls of the emperor Antoninus Pius (died 161 A.D.) and his wife Faustina about to be taken aloft by a winged god. In the deity's hand is a globe draped with a serpent and crossed by the zodiacal belt, which displays Pisces, Aries and Taurus. Now in the Vatican Museum, Cortile della Pigna.
Text, p. 185, Pl. 128.
L.Deubner, "Die apotheosis des Antoninus Pius", Röm. Mitt., XXVII, 1912, 16 f.
PW "Z", no.3, col. 614.

CATALOGUE OF ZODIAC MONUMENTS

Part 2.A. The zodiac in imperial iconography, continued.

Item no.

36 APOTHEOSIS OF ANTONINUS PIUS AND FAUSTINA, continued.
E.Strong, Apotheosis and Afterlife, 89.
D.Levi, "Aion", Hesperia XII, 1944, 307.
Lise Vogel, The column of Antoninus Pius, 1973, passim.
R. Turcan,"Le piédestal de la colonne antonine. A propos d'un livre récent" Revue Archéologique, 1975/2, 305-318.

37 ZODIAC MEDALLION Obv. Head of Antoninus Pius; Rev. Reclining Tellus with cornucopia, and the four seasons as children. In a zone overhead are the five signs of the zodiac from Aries to Leo. Now in the British Museum. Dated to 140 A.D. text, pp. 188.
H.Grueber, R.S.Poole, Roman medallions in the British Museum, 1874, no. 14, pl. XI,2.
PW "Z"no. 182, col. 667.
Daremberg and Saglio, DdA,"Z"(Cumont) 1057, 1.

38 APOTHEOSIS IVORY One leaf of an ivory diptych portraying three stages in the apotheosis of an emperor. At the base the emperor's statue is enthroned on a carriage drawn by elephants; at the centre his soul is carried upwards from the funeral pyre on a chariot; at the top he is supported by Winds and greeted by the gods. A partial zodiac arches over the scene at the top right, portraying the six signs of autumn and winter, from Libra to Pisces. Now in the British Museum. Text, p. 189, Pl. 68.
E.Strong, Apotheosis and afterlife, 1915, 227f.
R.Delbrueck, Die Consulardiptychen, no. 59
F.Cumont, Recherches sur le symbolisme funeraire des Romaines, 176.
Idem, Lux perpetua, 297.
PW no. 124, col. 647.

CATALOGUE OF ZODIAC MONUMENTS

Part 2.B. Mars.

Item no.

39 TORSO WITH ZODIAC BALDRIC. Finely worked male torso in yellowish marble wearing a baldric marked with the signs of the zodiac. The zodiac cycle begins on the shoulder with Pisces and ends with Aries on the lower hip. Text, pp.193ff Pl. 72. Now in the Vatican Museum (Museo Chairamonti 592). Probably from the reign of Augustus.
Amelung, Cat. Vat. Sculpture, I Chairamonti, Pl. 76.
PW "Z", no. 42, col. 625.

40 FRAGMENT OF TORSO WITH ZODIAC BALDRIC. Only the Gemini are preserved on this small fragment. Text, p. 196, Fig. 43 Now in Rome, Antiquarium Communale.
Monaco, "Frammenti di sculture marmoree dalle pendici Capitoline", Bull. Comm. LXIII, 1935, 106.
PW "Z", no. 44, col. 626.

41 VIRTUS WITH ZODIAC BALDRIC. A helmeted Virtus wearing a zodiac baldric is preserved on a large fragment of relief that was perhaps part of a major architectural decoration. The signs begin with Pisces on the shoulder and ends with Scorpio on the breast. Text, p. 197ff Pl. 77
Now in the Villa Medici.
Cagiano de Azevedo, Le antichita de Villa Medici, 46-48, no. 21, Pl. XIX-XX.
PW "Z", no. 43, col. 626.

42 HERMITAGE GEM, COUPLE IN THE ZODIAC. Fragment of an oval gem in green jasper showing a standing male and female, perhaps Mars and Venus, surrounded by the zodiac. Text, p. 202 Now in the Hermitage, Leningrad (Ж. 1908. 61).
Neverov, "Gemmes, bagues et amulettes magique du sud, l'URSS", in Hommages Vermaseren II, 835-6 and Pl. CLXVIII, 5a, and b.

CATALOGUE OF ZODIAC MONUMENTS

Part 2.C. Mithras.

Bibliographies provided for Mithraic zodiacs by Vermaseren in CIMRM will not be duplicated, but more recently published works will be noted.

Item no.

43 DURA-EUROPOS, TAUROCTONY RELIEF. The zodiac arches overhead, running left to right, Aries to Pisces. There is an incised circle over Aries, a crescent over Taurus, disks over Cancer, Leo and Virgo, and perhaps a star between the heads of the Twins. Cut in white gypsum. The monument has been dated archaeologically to 170-1 A.D. Now in the Gallery of Fine Arts, Yale University. Text, p. 239 Pl. 80
Vermaseren, CIMRM, I, mon. 40, fig. 15.
Cumont, "The Dura Mithraeum", in Mith. Stud. Manchester, 1975, 166 ff.
Merkelbach, Mithras, 1984, 274-5.
PW "Z", no. 73, col. 637.

44 DURA-EUROPOS. Painted zodiac in the soffit of the arched niche of the Mithraeum. The eight signs from Gemini to Capricorn are preserved. Probably painted c. 250 A.D. Now in the Gallery of Fine Arts, Yale University. Pl. 90.
Vermaseren, CIMRM, mon. 43.
Cumont, "The Dura Mithraeum", in Mith. Stud. Manchester, 1975, 182.
PW "Z", no. 167, col. 662-3.

45 SIDON, TAUROCTONY RELIEF (Syria). The zodiac encircles the scene without being confined within a ring border, and the zodiacal Scorpio is the scorpion that grasps the bull's genitals. Parian marble. Dated to 188 A.D. by inscriptions on works from the same Mithraeum. Now in the Louvre.
Text, p. 217 Pl. 82
Vermaseren, CIMRM, mon. 75, fig. 26.
N. Jidejian, Sidon, through the Ages, 1971.
A. de Ridder, La collection de Clercq IV, Les marbres, 1906, no. 46.
Merkelbach, Mithras, 1984, 279.
PW "Z", no. 71, col. 636.

CATALOGUE OF ZODIAC MONUMENTS

Part 2.C. Mithras, continued.

Item no.

46 LONDON, TAUROCTONY RELIEF from the Wallbrook Mithraeum. Circular relief with a counterclockwise zodiac, not separated into compartments. Now in the London Museum, A16933.
Text, p. 218, Pl. 83.
Vermaseren, CIMRM, mon. 810.
Cumont, TMM, mon. 267.
Turcan, Mithras Platonicus, 1975, 85.
Merkelbach, Mithras, 1984, 329.
PW "Z", no. 53.

47 ROME, TAUROCTONY FRESCO in the Palazzo Barbarini Mithraeum. The zodiac arches overhead, Aries to Pisces, running right to left. The snake-entwined planet Saturn standing on a globe is placed on the autumn equinox. Still in situ.
Text, pp. 228, Pl. 81
Annibaldi, Gatti, "Il Mitreo Barbarini con introduzione topografico monumentali", Bull. Comm., 1938, 251 ff, and 1943-45,
Vermaseren, CIMRM, mon. 390.
Vermaseren, The Mithraeum at Marino, 12-14.
Merkelbach, Mithras, 1984, 306.
PW "Z", no. 168.

48 ROME, ZODIAC FRAGMENT in the Palazzo Barbarini Mithraeum. The painting was to the right of the cult niche, but only Pisces remains.
Vermaseren, CIMRM, mon. 389.
PW "Z", no. 169.

49 PONZA, STUCCO RELIEF of a circular zodiac on the ceiling of the Mithraeum. The polar constellations, Ursa Major and Ursa Minor, are at the centre of the zodiac. In situ.
Text, p. 236, Fig. 96.
Vermaseren, Mithriaca II, The Mithraeum at Ponza, 1974.
R. Beck, "Interpreting the Ponza zodiac I", JMS I/1, 1976, 1-19,
and " " " " II", JMS II/2, 1978, 87-147.
H. Gundel, "Imagines zodiaci", Hommages Vermaseren, II, 449 ff.

CATALOGUE OF ZODIAC MONUMENTS

Part 2.C. Mithras, continued.

Item no.

50 SISAK, TAUROCTONY FRAGMENTS (Pannonia). Circular zodiac with eight signs preserved: Pisces, Aries, Taurus, Gemini, Leo, Virgo, Libra, Scorpio. Now in the Zagreb Archaeological Museum.
Vermaseren, CIMRM, mon. 1472.
Cumont, TMM, mon. 220.
PW "Z", no. 63, col. 633.

51 HEDDERNHEIM, TAUROCTONY RELIEF (Germania). The zodiac arches overhead, left to right, Aries to Pisces. The signs are placed diagonally in their compartments, creating a feeling of movement and tension. Cut in sandstone. Now in Wiesbaden Staat. Mus. Pl. 79.
Vermaseren, CIMRM, II, mon. 1083 A, fig. 274.
Cumont, TMM, mon. 251.
R. Merkelbach, Mithras, 342-3.
PW "Z" no. 74, col. 637.

52 RUCKINGEN, TAUROCTONY RELIEF (Germania). Arched zodiac, running left to right, Aries to Pisces. The relief was double-sided, made to turn on a pivot. Now in Hanau, Schloss Philippsruhe.
Vermaseren, CIMRM II, mon. 1137, fig. 296.
Schwertheim, Die denkmäler Orientalischer Gottheiten im Römischen Deutschland, 1974, Mon. 116c, Taf. 27.
R. Merkelbach, Mithras, 364.
PW "Z", no. 77, col. 638.

53 OSTERBURKEN, TAUROCTONY RELIEF (Germania). Arched zodiac, running left to right, Aries to Pisces. Now in Karlsruhe, Badisches Landesmuseum. Pl. 78.
Vermaseren, CIMRM, II, mon. 1292.
Cumont, TMM, mon. 246.
R. Merkelbach, Mithras, 350-353.
PW "Z", no. 75, col. 637.

CATALOGUE OF ZODIAC MONUMENTS

Part 2.C. Mithras, continued.

Item no.

54 GROSS-KROTZENBURG, TAUROCTONY FRAGMENT, (Germania). Arched zodiac, six signs preserved, Libra to Pisces. Lost in World War II.
Vermaseren, CIMRM, mon. 1149, fig. 302.
Merkelbach, Mithras, 1984, 363.
PW, "Z", no. 76, col. 638.

55 FRIEDBURG, TAUROCTONY FRAGMENT, (Germania). Arched zodiac, four signs preserved, Taurus to Leo. Now in Darmstadt Museum.
Vermaseren, CIMRM, mon. 1054.
PW, "Z", no. 79, col. 638.

56 SPOLATO, RELIEF FRAGMENT (Dalmatia). Fragment of an oval relief preserving two signs of the zodiac, Taurus and Gemini. Now in Split Archaeological Museum.
Vermaseren, CIMRM, mon. 1870.
PW, "Z", no. 69, col. 635.

57 ROME, RELIEF FRAGMENT. Arched relief inscribed with the seven signs from Aries to Scorpio. Now in the Museo Nazionale Terme, no. 121 020.
Vermaseren, CIMRM, mon. 635.
PW, "Z", no. 80, col. 638.

58 DIEBURG, RELIEF FRAGMENT (Germania). Arched zodiac preserving three signs: Gemini, Leo, Scorpio. Now in Dieburg Kreismuseum.
Vermaseren, CIMRM, mon. 1271.
PW, "Z", no. 78, col. 638.

59 STOCKSTADT, RELIEF FRAGMENT (Germania). Double-sided arched relief with Pisces and Aquarius preserved. Now in Saalburg Museum at Bad Homburg v.d.H.
Vermaseren, CIMRM, mon. 1161 B.
PW, "Z", no. 65, col. 633.

CATALOGUE OF ZODIAC MONUMENTS

Part 2.C. Mithras, continued.

Item no.

60 CATANIA, RELIEF FRAGMENT (Sicilia). Part of a circular relief with two signs, Libra and Scorpio. Now in the Archaeological Museum, Catania.
Vermaseren, CIMRM, mon. 163 A.
PW, "Z", no. 64, col. 633.

61 BANJEVACA, TAUROCTONY FRAGMENTS (Dalmatia). Circular zodiac with portions of the signs Leo, Virgo, Libra, Capricorn and Aquarius preserved. Discovered in 1972.
Julijan Medini, "Mitrički reljef iz Banjevaca", Diadora, VIII, 1975, 39-83.
H. Gundel, "Imagines zodiaci", Hommages Vermaseren, II, 448.

62 OSTIA, ZODIAC BENCHES, Mithraeum of Sette Sfere. The signs of the zodiac, with a star above each, were represented on the projecting edges of the benches. Aries to Virgo on the left; Libra to Pisces on the right. Second half of second century A.D. Still in situ.
Text, pp. 208.
Vermaseren, CIMRM, mon. 242.
Becatti, Scavi di Ostia II, 1954, 47 ff, fig. 10, Tav. VI.
Gordon, "The sacred geography of a Mithraeum: the example of Sette Sfere", JMS, 1/2, 1976, 119-165.
Beck, "Sette Sfere, Sette Porte", Mysteria Mithriae, Roma-Ostia, 1978, 515-529.
Merkelbach, Mithras, 292.
PW, "Z", no. 143, col. 654.

63 OSTIA. Small rectangular bronze plaques, each with one sign of the zodiac: Scorpio, Leo, Sagittarius, Virgo, Gemini. Probably from a Mithraeum. Now in the Antiquarium, Ostia, Inv. nos. 4151-4157. Text, p. 238 Fig. 49.
Vermaseren, CIMRM II, mon. 320 B.
Squarciapino, I culti orientali ad Ostia, 57.
PW, "Z", no. 120, col. 646.

CATALOGUE OF ZODIAC MONUMENTS

Part 2.C. Mithras, continued.

Item no.

64 ROME, SNAKE-ENTWINED FIGURE in white marble from the Villa Albani. On the figure's body, between the coils of the serpent are four signs of the zodiac, Aries and Libra (the equinoxes) lying across the chest, and Cancer and Capricorn (the solstices) on the thighs. The figure has been restored (head, arms, legs and wings) in modern times. Text, p. 224 Pl. 86. Now in the Vatican Library.
Vermaseren, CIMRM, mon. 545.
On the lion-headed, snake-entwined figure in general:
Levi, "Aion", Hesperia, XIII, 1944, 292.
Hinnells, "Reflections on the lion-headed figure", Monumentum H. Nyberg, I, 333-369.
Bivar, "Mithra and Mesopotamia", Mithraic Studies, Manchester, 1975.
Pettazzoni, "The Monstrous Figure of Time in Mithraism", in Essays on the history of religion, 180-192.
PW, "Z", no. 67, col. 634.

65 ARLES, SNAKE-ENTWINED FIGURE in white marble, with the signs of the zodiac between the serpent's coils. The lower legs are missing, and with them the last three signs (Capricorn, Aquarius, Pisces). Head and arms are also missing. The torso is draped in a thin garment. Dated c. A.D. 180-200 (see Turcan, below). Now in the Musée Lapidaire, Text, p.224. Pl. 87.
Vermaseren, CIMRM, mon. 879.
Levi, "Aion", Hesperia XIII, 1944, 292.
Turcan, Les religions de l'Asie dans la Vallée du Rhône, pp. 22-24.
Walters, The cult of Mithras in the Roman provinces of Gaul, 53-56, with a long bibliography.
Merkelbach, Mithras, 337.
PW, "Z", no. 90, col. 641.

CATALOGUE OF ZODIAC MONUMENTS

Part 2.C. Mithras, continued.

Item no.

66 MODENA, PHANES-MITHRAS. Nude, snake-entwined youth standing in an oval zodiac. He has hoofed feet and the heads of a ram, lion and buck growing from his torso. He holds a sceptre and thunderbolt. Relief in white marble, now in the Modena Museum (2676). Text, p. 234 Pl. 85.
Probably second century A.D.
Vermaseren, CIMRM, mon. 695.
Levi, "Aion", Hesperia XIII, 1944, 299-300.
Leisegang, "The mystery of the serpent", in The Mysteries, 208-9.
Festugière, Proclus, Commentaire sur le Timée, II, 11.
Merkelbach, Mithras, 324-5.
PW, "Z", no. 67, col. 634.

67 HOUSESTEADS, BIRTH RELIEF. Torso of a god holding a torch and dagger emerging from a rock, and enclosed in a horseshoe-shaped zodiac. Text, p. 223 Pl. 88
Now in Blackgate Museum, Newcastle-upon-Tyne.
Vermaseren, CIMRM, mon. 860.
Levi, "Aion", Hesperia, XIII, 1944, 202.
Harris, The oriental cults in Roman Britain, 34.
Merkelbach, Mithras, 335.
PW, "Z", no. 68, col. 635.

68 TRIER, BIRTH RELIEF. Child climbing through a circular orifice on which six signs of the zodiac (Aries to Virgo) are inscribed. He carries a globe in one hand and rests the other near the summer solstice in Cancer. Found inside a Mithraeum. Probably second century A.D. Text, p. 219, Pl. 89. Now in the Rheinisches Landesmuseum, Trier (Inv. ST. 9981).
Vermaseren, CIMRM, mon. 985.
Levi, Hesperia, XIII, 1944, 299 ff.
Schwertheim, Die denkmäler Orientalischer Gottheiten im Römischen Deutschland, mon. 190 B.
Walters, The cult of Mithras in the Roman provinces of Gaul, 108-110.
PW, "Z", no. 52, col. 630.

CATALOGUE OF ZODIAC MONUMENTS

Part 2.C. Mithras, continued.

Item no.

69 STOCKSTADT, fragments of a SANDSTONE BASIN, with an interior coating of lime. The exterior was apparently decorated with a zodiac, of which Sagittarius and one twin are preserved. Found in the Stockstadt Mithraeum; now in Saalburg Museum at Bad Homburg v.d.H. Text, p. 238.
Vermaseren, CIMRM, mon. 1196.
PW, "Z", no. 40, col. 625.

70 SPOLATO, A MARBLE SLAB decorated with the signs of the zodiac which was found in a room adjoining the Mithraeum, together with a sacrificial knife. Now in Spolato Museum. Text, p. 238.
Vermaseren, CIMRM, mon. 673.
PW, "Z", no. 81, col. 638.

71 ANGLEUR, FIVE BRONZE FIGURINES. Four of the five, portraying a ram, a lion, a scorpion and a fish, are modelled on one side and flat at the back, except for the remnants of iron hooks that were probably used to fix them to a wall or other surface. The fifth, a standing male figure, is modelled in the round, but also had a hook at the back. The figure's hand is outstretched, perhaps to carry a balance. Text, p. 238, Fig. 50. Now in the Museum, Liège.
Vermaseren, CIMRM, mon. 956.
Cumont, TMM II, no. 316, p. 429.
Faider-Feytmans, "Les bronzes Mithriaques d'Angleur", BMRAH, Bruxelles, XLVI, 1974, 71-91.
Walters, The cult of Mithras in the Roman provinces of Gaul, no. 60, p. 135.
PW, "Z", no. 122, col. 646.

CATALOGUE OF ZODIAC MONUMENTS

Part 2.D. Sarapis, and Jupiter-Sarapis.

Item no.

72 BM, SARAPIS AND ZODIAC GEM. Engraved amethyst 17 x 13 cm arranged into three zones by concentric ovals. Inner zone: Bust of Sarapis; Middle zone: busts of the planets; Outer zone: the zodiac. Leo and Libra have been misplaced in each other's positions. Text, p.248 Pl. 93.
Now in the British Museum (1907, 7-17-1).
Walters, BM Catalogue of engraved gems, no. 1668.
Richter, Engraved gems of the Romans, no. 202.

73 CAIRO, SARAPIS AND ZODIAC GEM. Noticed by Pagenstecher in Cairo, present whereabouts unknown. The engraved design is the same as the gem above (Item 72), including the exchanged positions of Leo and Libra, but with the addition of a star over the head of Sarapis. Text, p. 249, Fig. 53
Pagenstecher, Expedition E. v. Sieglin II, 1A, 120.
Hornborstel, Sarapis, 147, note 1 and Pl. XLIV, no. 79.

74 AQUILEIA, SARAPIS AND ZODIAC GEM. Onyx gem engraved with the head of Sarapis surrounded by eight signs of the zodiac. Text, p. 249. Now in the Archaeological Museum, Aquileia.
Brusin, Aquileia, p. 156.
Budischovsky, La diffusion des cultes Isiaques, 149, mon. Aquileia 11G.
Malaise, Inv. prélim. documents Egyptiens en Italie, no. 33.

75 GORI'S SARAPIS IN THE ZODIAC GEM. Heliotrope, known from a drawing only. Bust of Sarapis surrounded by an unconventional zodiac. Virgo, Aries and Capricorn eliminated, but a horse, a dog, and a man holding a trident included among the winter signs, which are placed on the top half of the gem. The authenticity of the gem is uncertain, but elements of the iconography can be paralleled in ancient sources. Text, p. 250, Fig. 54.
Gori, Thesaurus Gemmarum Astriferarum, 1750, 17.

CATALOGUE OF ZODIAC MONUMENTS

Part 2.D. Sarapis and Jupiter-Sarapis, continued.

Item no.

76 GORI'S JUPITER-SARAPIS GEM, known only from a drawing. Enthroned Jupiter-Sarapis holding a sceptre and globe. In the field to the left of the throne is a small figure of Sagittarius - the astrological House of Jupiter. In the field to the right is Saturn's planetary symbol, and the symbol of Libra, Exaltation of Saturn. The authenticity of the gem is uncertain, but the iconographic message is acceptable in an antique context. Text, p. 251
Fig. 51 In the Zanetti collection in 1750.
Gori, Le gemme antiche de Anton-Maria Zanetti di Girolamo, 1750, Pl. 32.

77 KING'S JUPITER-SARAPIS GEM, known only from a drawing. Enthroned god in a pose matching exactly the figure on the gem above (Item 76), but with Cancer (the Exaltation of Jupiter) in the field instead of Sagittarius, and with no symbols shown in the background of this much smaller drawing.
Text, p. 254 Fig. 52 In the Mertens Schaaffhausen collection in 1860.
King, Antique gems, 1860, Pl. 3, no. 11.

78 ROME, JUPITER IN THE ZODIAC. Enthroned Jupiter with sceptre and eagle surrounded by a circular zodiac, and supported by a kneeling Atlas. Text, p. 255 Pl. 91.
Now in the Villa Albani (Canopo, no. 648).
L'Orange, Iconography of Cosmic Kingship, 95, Fig. 67.
Schlachter-Gisinger, Globus, 5, 2.
Thiele, Himmelsbilder, 25, fig. 3.
PW "Z", no. 49, col. 628.

CATALOGUE OF ZODIAC MONUMENTS

Part 2.E. The god in the zodiac ring.

Item no. SENTIUM, mosaic showing Aion in the zodiac ring. Probably
79 second or third century A.D. The mosaic was found in the early nineteenth century, and restorations, not easily distinguishable, were made almost immediately. Now in the Munich Glyptotech. Text, pp. 260-1 Pl. 95 .
A.Alföldi, Aion in Mérida und Aphrodisias, 1979, pl. 11.
F.Cumont, TMM II, no.298, p.419, fig.530.
D.Levi, "Aion", Hesperia, XIII, 1944, 287-8.
K.Parlasca, Die Römischen mosaiken in Deutschland, 1959, 87.
PW "Z" no. 139.

80 HIPPO REGIS, mosaic, Aion as a boy standing in the zodiac ring. Found in a Roman villa and still in situ. Probably second or third century A.D. Text, pp. 265-6 Pl. 100.
K.Dunbabin, MRNA, 1978, 41, pl. 157.
K.Lehmann, "Dome of heaven", Art Bulletin, XVII, 1945, 9.
D.Levi, "Aion", Hesperia, XIII, 1944, 287-8, fig. 15.
F.G.de Pachtere, Inventaire des mosaiques d'Algerie, 1911, no.4.
J.Salomonson, La mosaique aux chevaux, 1965, 62.
Daremberg and Saglio, "Z", 1057, 1060.
PW "Z", no. 137.

81 HAIDRA, mosaic, Aion in the zodiac ring, discovered 1960. Now in the United Nations Building, N.Y. Probably second or third century A.D. Text, pp. 266-7 Pl. 98.
K.Dunbabin, MRNA, 1978, 158-9, pl. 155.
J.F.Mills, Connoisseur, CLXIX, Dec. 1968, 266, fig. 4.
J.Salomonson, La mosaique aux chevaux, 1965, 62-3, pl. XLV.
Enciclopedia dell'arte antica, "Z", 1282, pl. 1414.
PW, "Z", no. 138.

CATALOGUE OF ZODIAC MONUMENTS

Part 2.E. The god in the zodiac ring, continued.

Item no. 82 CARTHAGE, mosaic of Aion in the zodiac ring, standing by a horse. Discovered 1960 in a Roman dwelling and now in the Carthage Antiquarium. c.300 A.D. Text, pp. 269ffPl. 97.
K.Dunbabin, MRNA, 159, 165-6.
J.Salomonson, La mosaique aux chevaux, 1965, no. 18, pl.XLIV,3.
PW, "Z" no. 135,1.

83 CARTHAGE, mosaic of Aion in the zodiac ring. Found on the floor of a triclinium, probably of the same house as above. Now in the Carthage Antiquarium. c.300 A.D. Text pp. 268-9 Pl. 99
J.Salomonson, La mosaique aux chevaux, 1965.

84 CARTHAGE, stele terminating in the head of a god crowned with a star, and with the zodiac ring engraved on the front. Now in the Louvre, Inv. 1833. Text p. 268 Pl. 92.
Louvre, Catalogue sommaire des marbres antiques, 1908, 193.
Daremberg and Saglio, "Z", 1057.
Enciclopedia dell'arte antica, "Z", pl. 1415.
K.Schauenburg, Helios, 62, 219.
PW, no. 72.

85 PARABIAGO, silver dish with relief decoration showing Aion in the zodiac ring as part of a scene featuring Cybele and Attis. Found 1907, and now in the Galleria Brera, Milan. Dates proposed for the object vary between the second and fourth centuries A.D. Text pp. 277 ff Pl. 101.
A.Alföldi, Aion in Mérida und Aphrodisias, 1980, pl. 9.
P.Friedlander, Documents of dying paganism, 1945, 45.
A.Levi, La patera d'argento di Parabiago, 1935.
D.Levi, "Aion", Hesperia, XIII, A944, 286.
M.Vermaseren, Corpus Cultus Cybele Attidisque, IV, 1978, 107-9.
M.Vermaseren, The legend of Attis in Greek and Roman art, 1966, 27-30.
J.M.C.Toynbee,"Review of A.Alföldi, Die Kontorniaten," in JRS, XXXV, 1945, 119.
PW "Z" no. 115.

CATALOGUE OF ZODIAC MONUMENTS

Part 2.E. The god in the zodiac ring, continued.

Item no. ANTIOCH mosaic, Aion with the personifications of Past,
86 Present and Future, captioned in Greek. Aion is shown as an older man with the zodiac ring, which does not seem to have been marked with individual signs. The area below the head and shoulders of Aion is destroyed. Text pp. 261-2 Pl. 94.
D.Levi, "Aion", Hesperia, XIII, 1944, 271, fig. 3.
D.Levi, Antioch mosaic pavements,
PW "Z" no. 135.

87 PHILIPPOPOLIS mosaic. Aion, personified by the Emperor Philip the Arabian, seated with the zodiac ring on which the signs are not shown. c.248 A.D. Greek inscriptions identify most of the figures in the crowded composition. Now in the Damascus Museum. Text pp. 262-3 Pl. 96.
J.Charbonneaux, "Aiôn et Philippe l'Arabe", MEFR, LXXII, 1960, 253-272.
PW, "Z", no. 135,2.

88 ISOLA SACRA, Ostia, mosaic from a tomb showing an elderly Aion with the zodiac ring, on which the signs are not marked. Probably second century A.D. Now in the Ostia Museum.
Text pp. 267-8 Fig. 63.
G.Becatti, Scavi di Ostia IV, 1961.
G.Galza, La necropoli del porto di Roma nell'Isola Sacra, 1940, Tomb no. 101, pp.183 ff. F
D.Levi, "Aion", Hesperia, XIII, 1944, 285.
PW, "Z" no. 136.

89 SILIN Mosaic portraying a seated, semi-draped Aion with winged forehead, who holds the zodiac ring while the seasons step through. Overhead, Sol rises into the sky preceded by a flying figure playing pipes. Found in a Roman villa, discovered in 1974, at Silim, 15 km from Leptis Magna.
al-Majub,"I mosaici della Villa Romana di Silin," in Il mosaico antico III, 299-306.

CATALOGUE OF ZODIAC MONUMENTS

Part The god in the zodiac ring, continued.

Item no. BIR CHANA, hexagonal mosaic showing the bust of Saturn
90 surrounded by the busts of the sun, moon, and the planets. The signs of the zodiac encircle the busts in alternate round and hexagonal medallions. Probably second or third century A.D. Now in the Bardo Museum, Tunis.
Text pp. 286-8. Pl. 102.
K.Dunbabin, MRNA , 1978, 161.
P.Gauckler, Inventaire des mosaiques de l'Afrique, II, 1910, no. 447, pp.151 f.
K.Lehmann, "The dome of heaven", Art bulletin, XXVII, 1945, 5.
H.Stern, Le calendrier de 354, 184.
PW "Z" no. 140.

91 PAN Drawing of a gem portraying Pan with a goat, standing at an altar and surrounded by the zodiac.
Text, pp. 285-6. Fig. 55.
R.Herbig, Pan. Der Griechische Boksgott, 94.

CATALOGUE OF ZODIAC MONUMENTS

Part 2.F. The Sun and Moon.

Item no.

92 HATRA ZODIAC. Busts of the sun and moon gods surrounded by the zodiac. Signs roughly executed but the summer signs apparently oriented to the bottom. Probably funerary context. Still in situ. Text, p. 292 Fig. 57
Safar, "Hatra and the first season of excavation", Sumer, 195, 11.
Neugebauer, "On the Hatra zodiac", Sumer X, 1954, 91.
Gundel, "Imagines zodiaci" in Hommages Vermaseren I, 442.

93 BINGEN, SOL IN THE ZODIAC. Mosaic portraying Sol driving a quadriga encircled by the signs of the zodiac. Probably second century A.D. Text, p. 295 Fig. 58.
Now in the Landesmuseum, Bonn.
Lafaye et Blanchet, Mosaiques de la Gaule, I, no. 1382.
Lehman, "The dome of heaven", Art Bulletin, XXVII, 1945, 9.
Parlasca, Römischen mosaiken in Deutschland, 86-87.
Hilgers, "Tierkreiss und Sonnengott", Das Rheinische Landesmuseum, 6, 1977.
von Gozenbach, Die Römischen mosaiken der Schweiz, 51.
PW, "Z", no. 129, col. 649.

94 AVENCHES, ZODIAC FRAGMENT, in mosaic. Pisces, Taurus and a little of Aries and Gemini remain. Text, p. 296.
Now in the Bern Stadtbibliothek.
Lafaye et Blanchet, Mosaiques de la Gaule, I, no. 1393.
von Gozenbach, Die Römischen mosaiken der Schweiz, 43 ff. & Taf. 79.
PW, "Z", no. 130, col. 649.

95 OLBIA, INCENSE SPOON. In the bowl of the bronze spoon the zodiac surrounds the bust of a god with a large star behind his head. Human figures in the zodiac are shown as though floating. Text, p. 297 Pl. 124.
Probably first century A.D. Now in the Odessa Museum.
Belin de Ballu, Olbia, Pl. LXXVII, 2.
Vermaseren, Mithraeum at Ponza, 16, Pl. XXIV.
PW, "Z", no. 119, col. 645.

CATALOGUE OF ZODIAC MONUMENTS

Part 2.F. The Sun and Moon, continued.

Item no.

96 ZODIAC BAETYL. Limestone model of a baetyl standing in a shrine. An image of a semi-draped deity with a radiate head standing at the centre of an oval zodiac is carved on the face of the sacred stone. Text, p. 298 Pl. 103
Reported from Beirut, and now in private ownership.
Seyrig, "Une idole bétylique", Syria, XL, 1963, 17-19.
PW, "Z", no. 69, i, col. 635.

97 SPARTA, SOL AND LUNA IN THE ZODIAC. Mosaic in a Roman villa discovered in 1975, and dating probably to the fourth century A.D. Text, p. 386 Fig. 64
Catling, "Archaeology in Greece, 1983-84", Archaeological Reports for 1983-84, p. 27.

ARTEMIS OF EPHESUS. Principal works of reference are:
Thiersch, Artemis Ephesia, Eine archäologische untersuchung.
Fleischer, Artemis von Ephesos und Verwandte Kultstatuen aus Anatolien und Syrien.

The statues will be catalogued according to the number of signs they carry.

ONE SIGN - Cancer

98 DRESDEN, Albertinum, no. 42. Thiersch no. 3, Pl. XXII.
Fleischer, no. E6.

99 LONDON, Sloane Museum. Thiersch, no. 8, Pl. XIII.
Fleischer, no. E19.

100 LONDON, private ownership. Thiersch, no. 9, Pl. XIII.
Fleischer, no. E20.

101 MARSEILLE, Chateau Borély Musée. Thiersch, no. 10, Pl. XVI.
Fleischer, no. E21.

102 PARIS, Louvre, no. 2441. Thiersch, no. 14, Pl. XVIII.
Fleischer, no. E 26.

CATALOGUE OF ZODIAC MONUMENTS

Part 2.F. The Sun and Moon, continued.

ARTEMIS OF EPHESUS, ONE SIGN (Cancer), continued.

Item no.

103 PARIS, Louvre, no. 2440. Thiersch, no. 15, Pl. XVII. Fleischer, no. E27.

104 ROME, Villa Albani, Canapo no. 658. Thiersch, no. 24, Pl. VIII. Fleischer, no. E41.

105 ROME, Museo Capitolino, Sala della Colombe. Thiersch, no. 19, Pl. IV 1-3. Fleischer, no. E31.

106 ROME, Museo Torlonia, no. 483. Thiersch, no. 27, Pl. IX. Fleischer, no. E33.

107 ROME, Museo Torlonia, no number. Thiersch, no. 28, Pl. XIV. Fleischer, no. E34.

108 VERONA, Museo del Teatro Romano, no number. Thiersch, no. 31, Pl. XXIV. Fleisher, no. E26.

THREE SIGNS - Aries, Cancer, Scorpio

109 LONDON, Wilton House. Thiersch, no. 38. Pl. XXIV, 1. Fleischer, E64.

110 ROME, Vatican Magazine. Thiersch, no. 28a, Fig. 3. Fleischer, no. E38.

FOUR SIGNS - Cancer and Sagittarius, Virgo and Leo

111 ROME, Conservatori, Sala dei Trionfi no. 6. Thiersch, no. 20, Pl. V. Fleischer, no. E35.

FIVE SIGNS - Aries, Taurus, Gemini, Cancer, Leo

112 NAPLES, Museo Nazionale, no. 665. Thiersch, no. 12, Pl. I, II. Fleischer, no. E23. Statue in alabaster and bronze, with the face and hands of metal. Fig. 60

113 ROME, Vatican, Galleria dei Candelabri II, 22. Thiersch, no. 18, Pl. IX, 3. Fleischer, E36.

CATALOGUE OF ZODIAC MONUMENTS

Part 2.F. The Sun and Moon, continued.

ARTEMIS OF EPHESUS, FIVE SIGNS, continued.

Item no.

114 ROME, Villa Albani, Canopo no. 700. Thiersch, no. 23, Pl. VI, 1. Fleischer, no. E40.

115 TUSCANY, Palazzo Vescovile. Thiersch, no. 30, Pl. XVII. Fleischer, no. E61.

SIX SIGNS - Taurus, Gemini, Cancer, Leo, Virgo, Libra (Scorpio)

116 KOS, Antiquarium, With Libra as the sixth sign. Thiersch, no. 6, Pl. XXIII. Fleischer, no. E16.

117 SOLOTHURN, private ownership (J. Müller). With Scorpio as the sixth sign (Libra = the Claws of Scorpio). Thiersch, no. 11, Pl. XXXIII, 1. Fleischer, E58, Pl. 33. Fig. 59. Miltner, Anatolia III, 23, 30.

118 SEVEN SIGNS - Leo, Virgo, Libra, Scorpio, Sagittarius, Capricorn, Aquarius

119 EPHESUS, Selçuk Museum; Parian Marble, found 1956. Fleischer, no. E47.
F. Miltner, Ephesos, Fig. 88.
Bean, Aegean Turkey, 36, 177 ff.

EIGHT SIGNS - Aries, Taurus, Gemini, Cancer, Leo, Virgo, Libra, Scorpio

120 EPHESUS, Selçuk Museum, 717. Fleischer, E47.
Bean, Aegean Turkey, 177 ff.

NINE SIGNS - Scorpio, Capricorn, Aries, Taurus, Gemini, Cancer, Leo, Pisces, Sagittarius.

121 TRIPOLI Museum, found in Leptis Magna. Thiersch, no. 29, Pl. XXV, Fleischer, no. E60.
Miltner, Anatolia, 3.
Di Vita, Libya Antiqua, I, 136.

CATALOGUE OF ZODIAC MONUMENTS

Part 2.F. The Sun and Moon, continued.

ARTEMIS OF EPHESUS, continued.

COMPLETE ZODIAC

Item no.

122 EPHESUS, Selçuk Museum, no. 718. Fleischer, no. E46.
A. Wotschitzky, Archaeology, XIV, 1961, 208, 211, Fig. 3.
Akurgal, Ancient civilizations and ruins of Turkey, 146, Pl. 58.

123 ARTEMIS OF PERGE. Circular relief portraying the bust of Artemis with the crescent moon on her shoulders, surrounded by the zodiac. Scenes describing the death of the Niobids in the field. Human figures in the signs Gemini and Libra appear to be floating. Text, p. 309, Pl. 106.
Onurkan, "Perge Artemis Kabartmalari ve Artemis Pergaia", Belleten, XXXIII, 1969, 312, Pl. VI, VII.
Pekman, History of Perge, 91.
Onurkan, "Artemis Pergaia", Istanbuler Mitteilungen, XIX/XX, 1969-70, 290 ff.

124 SELENE OF ARGOS. Bust of a goddess in relief with the crescent moon on her head, surrounded by seven large stars and the signs of the zodiac. Text, p. 311 Pl. 107
c. third century A.D. Now in the British Museum.
Smith, BM Cat. Greek and Roman Sculpture, no. 2162.
Delatte, "Un bas-relief gnostique", Musée Belge, 1913, 321-337.
Cumont, Recherches sur le symbolisme funéraire des Romaines, 242.
PW, "Z", no. 70, col. 636.

125 PHILLIPI, ZODIAC RELIEF. Fragment of a circular relief showing a goddess with the lunar crescent, and surrounded by the zodiac, of which only Taurus and Gemini remain.
Text, p. 313 Unpublished.

CATALOGUE OF ZODIAC MONUMENTS

Part 2.G. The Roman Near East.

Item no.

126 PALMYRA, TEMPLE OF BĒL. Circular zodiac surrounding busts of the planetary deities on the ceiling of the north thalamos. Dedicated A.D. 32. Text, p. 315 Fig. 65.
Still in situ.
Brykczyński, "Astrologia w Palmyrze", Studia Palmyreńskie VI, 1975, 47-107 (with English summary 105-107).
Colledge, Art of Palmyra, 39, 131, Pl. 121.
Drijvers, Cults and beliefs at Edessa, 64-65.
Michalowski, Palmyre, Fouilles polonaises, III, 1962.
Seyrig, "Bel de Palmyre", Syria XLVIII, 1971, 85-114.
Schlumberger, L'Orient hellénisé, 85,89.
PW,"Z" no. 45, col. 627.

127 PALMYRA, CEILING RELIEF. Fragment of a circular zodiac surrounding a figure astride a feline. Re-used in a building during the time of Diocletian, but perhaps originally from a tomb. Aries to Cancer preserved. Planetary rosettes in the signs. Text, p. 319 Pl. 115.
Brykczyński, "Astrologia w Palmyrze", Studia Palmyreńskie, VI, 1975, 47-105 (with English summary 105-107).
Colledge, Art of Palmyra, 131.
Gundel, "Imagines Zodiaci", Hommages Vermaseren I, 438-454.
Michalowski, Fouilles polonaises II, 113 ff.
PW,"Z", no. 46, col. 627.

128 KHIRBET TANNUR, GODDESS IN THE ZODIAC. Circular zodiac supported Atlas-fashion by a goddess (Nike?) and surrounding the bust of a goddess wearing a mural crown (Allāt?). The zodiac is divided at the equinoxes into two halves; on one the signs proceed in a clockwise direction, and on the other in an anticlockwise direction. Early second century A.D. Text, p. 325 Pl. 110. The monument is broken and the two pieces were found separately. The zodiac is now in the Cincinnati Art Museum, and the Nike-Atlas in private ownership in Jordan.
Glueck, Deities and Dolphins, 46-48.
PW,"Z", no. 50.

CATALOGUE OF ZODIAC MONUMENTS

Part 2.G. The Roman Near East, continued.

Item no.

KURNAB NECROPOLIS, ZODIAC SEAL IMPRESSIONS.

Eight seal impressions with Greek inscriptions naming the Nabatean cities of Rabbath-Moab and Characmoba with a month of the year were found in the Necropolis at Kurnab, in the Negev. Perhaps official seals and probably to be dated to the second quarter of the second century A.D. Text, pp. 329-332. Pls. 111-114. Individually, the impressions were as follows:

129 LIBRA. Bearded deity with sceptre, crown and scales, no. 20. 3068.
Inscription: Rabbath-Moab, Tishri, Pl. 113.

130 Similar, no. 21. 3068.

131 SCORPIO, tail raised right. no. 22.3070.
Inscription: Rabbath-Moab. Marheshvan. Pl. 114.

132 SAGITTARIUS as a centaur-archer no. 23. 3071.
Inscription: Characmoba, Kislev. Pl. 111.

133 Similar to Item 132. no. 24. 3072.

134 Similar to Item 132. no. 25. 3074.

135 Damaged impression - either a ram as Aries, or a kid as Capricorn. no. 26. 3075. Inscription: Characmoba (month name destroyed).

136 AQUARIUS. Naked girl (?) carrying an amphora no. 27. 3073.
Inscription: Characmoba, Shebat. Pl. 112.

Negev, "Seal impressions from Tomb 107 at Kurnab", IEJ XIX 1976, 89-105.
Gundel, "Imagines Zodiaci" in Hommages à Vermaseren I, 438-439.

CATALOGUE OF ZODIAC MONUMENTS

Part 2.H. The zodiac in funerary art.

Item no.

137 SARCOPHAGUS OF KORNELIOS POLLIOS. Painted wooden coffin with the zodiac on the interior of the lid surrounding the figure of the goddess Nut. From the Theban necropolis, end of the first century A.D. British Museum 6950 A. Text, pp. 336 ff.
Neugebauer and Parker, EAT III, 89 ff., Pl. 46.
PW, "Z", no. 170, 1, col. 664.

138 SARCOPHAGUS OF SOTER, son of Kornelios Pollios. Painted wooden coffin with the zodiac on the interior of the lid surrounding the figure of the goddess Nut. From the Theban necropolis, early second century A.D. British Museum 6705. Text, pp. 336 ff Pl. 133.
Neugebauer and Parker, EAT III, 91, no. 67, Pl. 47.
PW, "Z", no. 172, col. 664.

139 SARCOPHAGUS OF KLEOPATRA, daughter of Soter. Painted wooden coffin with the zodiac inside the lid surrounding the figure of Nut. Theban necropolis, early second century A.D. British Museum 6706. Text, pp. 336 ff.
Neugebauer and Parker, EAT III, no. 68, Pl. 48.
PW, "Z", no. 173, col. 665.

140 SARCOPHAGUS OF SENSAOS, daughter of Soter. Painted wooden coffin with the zodiac inside the lid, surrounding the figure of Nut. Theban necropolis. Dated by inscription to A.D. 109. Leiden Museum, M 75. Text, pp. 336 ff.
Neugebauer and Parker, EAT III, no. 69, Pl. 49.
PW, "Z", no. 174, col. 665.

141 SARCOPHAGUS OF PETEMENOPHIS, son of Soter. Painted wooden coffin with the zodiac inside the lid, surrounding the figure of Nut. Theban necropolis. Dated by inscription to A.D. 116. Louvre, 13048. Text pp. 336 ff Fig. 70
Neugebauer and Parker, EAT III, no. 70, Pl. 47 B.
PW, "Z", no. 175, col. 665.

CATALOGUE OF ZODIAC MONUMENTS

Part 2.H. The zodiac in funerary art, continued.

Item no.

142 SARCOPHAGUS OF HETER. Painted wooden coffin with the zodiac inside the lid, surrounding the figure of Nut. Probably from the Theban necropolis. The zodiac has been made into a horoscope by writing the names of the sun, moon and planets beside the signs in which they stood at Heter's birth. Computed date of birth (Neugebauer and Parker): 1 Oct. A.D. 93. Date of death: A.D. 125. The coffin is now lost. Text, p. 345-6 Fig. 67.
Neugebauer and Parker, EAT III, no. 71, Pl. 50.
PW, "Z", no. 171, col. 664.

143 SARCOPHAGUS OF SENPETEURIS. End fragment from the lid of a wooden coffin; painted with a circular zodiac of which eight signs are wholly or partially preserved. Probably second century A.D. Louvre. Eg. 1363-64. Text, p. 346.
Neugebauer and Parker, EAT III, no. 81, Pl. 49 B.

144 AL-SALĀMŪN, ROCK TOMB 3A, near Akhmīn. A circular zodiac painted on the ceiling around the figure of ISIS-SOTHIS riding a dog. The zodiac is supported at the four corners by goddesses, signs running clockwise. Probably second century A.D. Now in situ, with the tomb sealed. Text, p. 347 Fig. 72.
Neugebauer and Parker, EAT III, 98-101, Pl. 52.
PW, "Z", no. 116, 4, col. 662.

145 AL-SALĀMŪN, ROCK TOMB 3B, near Akhmīn. Inner room ceiling painted with a circular zodiac supported by goddesses, jackal and falcon, with HARPOCRATES seated in the middle. The zodiac runs clockwise. Probably second century A.D. Now in situ, with the tomb sealed. Text, p. 347 Fig. 73.
Neugebauer and Parker, EAT III, 100, pl. 53.
PW, no. 166, 5, col. 662.

CATALOGUE OF ZODIAC MONUMENTS

Part 2.H. The zodiac in funerary art, continued.

Item no.

146 AL-SALĀMŪN, ROCK TOMB 6, near Akhmīn. Inner room. Clockwise zodiac, partly overpainted by later decoration encircles the figure of HARPOCRATES on the ceiling. Probably second century A.D. Now in situ with the tomb sealed. Text, p. 347 Fig. 69.
Neugebauer and Parker, EAT III, 100-101, pl. 54.
PW, no. 166, 6, col. 662.

147 AL-SALĀMŪN, ROCK TOMB 7, near Akhmīn. Outer room. Fragment of a counterclockwise zodiac, with Virgo and Libra only remaining on the ceiling. Probably second century A.D. Now in situ with the tomb sealed.
Neugebauer and Parker, EAT III, 101, pl. 55A.
PW, no. 166, 7, col. 662.

148 AL-SALĀMŪN, ROCK TOMB 8 B, near Akhmīn. Outer room. Counterclockwise zodiac on the ceiling with central area divided into two registers. Top half (?); lower half, HARPOCRATES on a lotus in a boat, flanked by six seated gods. Probably second century A.D. Now in situ with the tomb sealed. Text, p. 347.
Neugebauer and Parker, EAT III, 101-102, pl. 56.
PW, no. 166, 9, col. 662.

149 AL-SALĀMŪN, ROCK TOMB 8 A, near Akhmīn. Painted ceiling of an inner room. Counterclockwise zodiac encircling ISIS-SOTHIS on a Dog. Probably second century A.D. Now in situ with the tomb sealed. Text, p. 347.
Neugebauer and Parker, EAT III, 101, pl. 55B.
G. Clerc, "Isis-Sothis dans le monde Romain", in Hommages à Vermaseren I, 247-281.
PW, no. 166, 8, col. 662.

CATALOGUE OF ZODIAC MONUMENTS

Part 2.H. The zodiac in funerary art, continued.

Item no.

150 PISA, SEASONS SARCOPHAGUS. Roman sarcophagus in carved stone, portraying the busts of the deceased man and his wife encircled by the zodiac, and flanked by the personified seasons. c. 250 A.D. Now in the Campo Santo, Pisa. Text, p. 351 Pl. 122.
G. Hanfmann, The seasons sarcophagus in Dumbarton Oaks, vol. I, 13, 27, 40, 62, 239. Vol. II, ch. 3, notes 49, 82; ch. 10, n. 65.
R. Turcan, Sarcophages romaines à representations dionysiaques, 597.
PW, no. 56, col. 631.

151 SASSARI, SEASONS SARCOPHAGUS. Fragment of a Roman sarcophagus in carved stone, portraying the zodiac and seasons encircling the busts of the deceased. c. 310 A.D. From Sardinia, now in Sassari, Museo Sanna. Text, p. 351 Pl. 123.
G. Hanfmann, The seasons sarcophagus, vol. I, 13, 28, 55 f.
PW, no. 57, col. 631.

152 DUMBARTON OAKS, SEASONS SARCOPHAGUS. Roman sarcophagus in carved stone, portraying the busts of the deceased man and his wife encircled by the zodiac and flanked by the personified seasons. In grey-white marble, perhaps originally painted. c. 330-340 A.D. Now in Dumbarton Oaks Research Library and collection of Harvard University. Text, p. 351 Pl. 120.
G. Hanfmann, The seasons sarcophagus, passim.
R. Hinks, Myth and allegory in ancient art, 48, Pl. VI.
PW, no. 55, col. 631.

CATALOGUE OF ZODIAC MONUMENTS

Part 2.H. The zodiac in funerary art, continued.

Item no.

153 MAUSOLEUM OF HENCHIR AL-MASSAOUDI, North Africa. The signs of the zodiac are grouped three by three in seasons. Roman period. I know of no published drawings or photos. Text, p. 354.
F. Cumont, Recherches sur le symbolisme funéraire des Romains, 487-8, note 6.

154 THE SALO FLASK. Terracotta flask found in a Roman tomb at Salo, Italy, in 1972. The body is decorated front and back with scenes in relief. One face portrays Hercules killing Laomedon, the other shows the triumph of Dionysus (or Liber). The zodiacal band isolates a segment at the top of the relief, and above it is a scene of apotheosis. On the left of the relief are the words LIBER IN DEVM. Probably first, or early second century A.D. Museo Archeologico, Gavardo. Text, pp. 356-8 , Pl. 109.
Vermaseren, Liber in Deum, 1976.

155 IGEL TOMB, APOTHEOSIS OF HERCULES. Family tomb of the Secundinii in Igel, France. A relief on the wall portrays an apotheosis of Hercules within a zodiac ring. Third century A.D. Still in situ. Text, p. 358ff. Pl. 116.
Strong, Apotheosis and afterlife, 222 ff., Pl. xxx.
Espérandieu, Recueil général des bas-reliefs de la Gaule Romaine, (henceforth Bas-reliefs) Vol. VI, mon. 5268.
Cumont, Recherches sur le symbolisme funéraire des Romains, p. 28, note 3.
PW, "Z",

156 MAESTRICHT STELE. Fragment in the form of an arched niche decorated with figures of Capricorn. The shell-shaped niche arches over the remains of two figures. Probably from a funerary monument. Now in the Church of St. Servais, Maestricht. Text, p. 361 Fig. 75.
Espérandieu, Bas reliefs, Vol. XIV, mon. 8380.

CATALOGUE OF ZODIAC MONUMENTS

Part 2.H. The zodiac in funerary art, continued.

Item no.

157 CONFRONTED CAPRICORNS, carved in shallow relief, support a disk between their feet. Part of the soffit of a door, perhaps from a tomb. Musée de Lamourguier. Text, p. 361 Fig. 77.
Espérandieu, Bas-reliefs, Vol. I, mon. 740.

158 STRASBOURG CAPRICORN. Block with an image of Capricorn in high relief. The termination on the long, looped tail is reminiscent of vegetation. Perhaps a funerary monument.
Musée de Strasbourg. Fig. 76.
Espérandieu, Bas-reliefs, Vol. VII, mon. 5584.

159 COLOGNE CAPRICORNS. A pair of confronted Capricorns, straight short tails. Espérandieu suggested that these may have come from a temple of the imperial cult, but a funerary use is also possible. Cologne Museum.
Espérandieu, Bas-reliefs, Vol. VIII, mon. 6397.

160 VEGETAL CAPRICORN. Capricorn, whose tail becomes acanthus leaves, guarding an urn. Probably from a funerary monument.
Musée Lamourguier.
Espérandieu, Bas-reliefs, Vol. I, mon. 747.

CATALOGUE OF ZODIAC MONUMENTS

Part 2.I. Art and the astrologer.

Item no.

161 DARESSY'S PLAQUE. Marble planisphere designed as two concentric rings enclosing a circle. Centre: busts of the sun and moon; inner ring: dodecaoros; outer ring: zodiac. Present whereabouts unknown, but the squeeze taken by Daressy is in the French Institute in Cairo. Probably second century A.D. Text, pp. 364-6 Pl. 117.
G. Daressy, "Notes et remarques", Rec. de travaux rel. a la philos. Egypt. et Assyr., XXIII, 1901, 126f.
G. Daressy, "L'Egypte céleste", Bull. de l'Institute Française d'archéologie orientale, XII, 1916, 1-34, Pls. II, IV.
W.J. Hinke, A new boundary stone of Nebuchadnesser I, 1907, 106-8.
F. Boll, Sphaera, 17-21, 41-52.
Neugebauer and Parker, EAT, III, 103, no. 80, Pl. 40B.
PW, "Z", no. 59, col. 632.

162 IVORY PLANISPHERES. Fragments of two ivory diptychs were found in a pit near the ancient city of Grand, France, and afterwards reconstructed. They are designed as planispheres in concentric bands surrounding busts of the sun and moon, as follows: Band 1, the zodiac; Band 2, the planetary Terms (using the Egyptian system); Band 3, the decans; Band 4, the names of the decans in Greek. The two diptychs are similar, but have minor iconographic variations in the signs. Text, pp. 37Off Pl. 118.
M.R. Billoret, "Informations archéologiques - Circonscription de Lorraine", Gallia, XXVII, 1970, 308.
O. Neugebauer, HAMA, II, 1975, 870, note 6.

163 GLASS PLANISPHERES, painted and gilded, from a private house in Tanis, Egypt, now in the British Museum (BM 29137). The fragments, damaged by fire and weathering, indicate an arrangement of two concentric rings: inner ring, signs of the zodiac; outer ring, busts with the zodiac behind them. Text, p. 379.
W.M. Flinders Petrie, Tanis, I, 1883-4, (1889), 48 f.
Neugebauer and Parker, EAT, III, 102 f., no. 79, Pl. 47C.
PW, "Z", no. 159, col. 658.

CATALOGUE OF ZODIAC MONUMENTS

Part 2.I. Art and the astrologer, continued.

Item no.

164 BIANCHINI PLANISPHERE. Marble plaque with a design arranged as concentric rings. Centre, polar constellations; Band 1, dodecaoros; Band 2, zodiac; Band 3, zodiac; Band 4, planetary Terms; Band 5, decans; outer perimeter, busts of the sun, moon and planets as rulers of the decans. Probably second century A.D. Louvre. Text, pp. 366 ff Pl. 119.
B. de Fontenelle, Histoire du renouvellement de l'Academie des sciences, Paris, 1708.
W. Froehner, Notice de la sculpture du Louvre, Paris, 1869.
G. Thiele, Antike Himmelsbilder, 1898, 68.
F. Boll, Sphaera, 299 ff.
H. Stern, Le calendrier de 354, 197 ff.
C. Bezold, Sternglauber und sterndeutung, 60.
Daremberg and Saglio, "Z", 1051.
PW, "Z", no. 60, col. 632.

165 PEIRESC FRAGMENT. Drawing of a corner fragment, possibly from the Bianchini planisphere, found among the papers of Peiresc. Text, p. 370
B. de Montfaucon, L'Antiquité expliquée et representée en figures, Pl. CCXXIV, and Supplement I, Pl. XVII (Paris, 1719).
F. Boll, Sphaera, 302, 5.
H. Stern, Le calendrier de 354, 180.
PW, "Z", no. 62, col. 633.

166 ZODIAC BLOCK from the ruined Temple of Triphis and Pan, at Akhmin (Panopolis), Egypt, now lost. Planisphere with three bands around a central circle, the zodiac being in the band nearest the centre. Perhaps from the ceiling of the pronaos. Dated by an inscription to A.D. 109, Text, p. 380
Neugebauer and Parker, EAT, III, 86 ff., Pl. 45.
PW, "Z", no. 61, col. 633.

CATALOGUE OF ZODIAC MONUMENTS

Part 2.I. Art and the astrologer, continued.

Item no.

167 HOROSCOPE GEM purchased in Beirut by Professor Seyrig in 1967. Oval nicolo, cut in concentric bands, with Taurus in the centre. Busts of the sun, moon and planets are in the outer band. These are matched (inner band) to the signs in which they were found at the owner's birth. Greek letter-numbers specify the degrees. From information on the gem, Neugebauer dated the nativity to 23 June, A.D. 215. Text p. 381 Fig. 56.
O. Neugebauer, "A horoscope gem", AJA LXXIII, 1969, 361-2.

168 ARTHRIBIS, HOROSCOPES OF PA-MEHIT AND IB-PMENY. Painted ceiling of a tomb showing the horoscopes of two brothers, Pa-mehit and Ib-pmeny. A ring of decans surrounds the two zodiacs, each compressed into two lines: the six signs in the top line representing the signs above the horizon at the moment of birth, the lower line containing the signs that were below the horizon. Planets are shown as hawks, with the exception of Venus, who appears as a man with two heads, facing in opposite directions. Neugebauer calculated the dates of the nativities as follows:
Pa-mehit, 26-27 April, A.D. 141.
Ib-pmeny, 6-7 June, A.D. 148.
Text, p.382 Fig. 74.
W.M. Flinders Petrie, Arthribis.
Neugebauer and Parker, EAT III, 96 ff, no. 72, Pl. 51.
PW, "Z", no. 162, col. 659.

169 MEROE PLANISPHERE. Wedge-shaped fragment of a terracotta planisphere with turquoise glaze, found in Meroe, in the Sudan. Two signs, Capricorn and Aquarius, remain. First century B.C. (reign of Augustus). Now in the Egyptology collection, University of London. Text, p. 378 Fig. 97.
Unpublished.

170 SPARTA ZODIAC MOSAIC. Busts of the sun and moon surrounded by the zodiac and winds on the floor of a villa. Fourth century A.D. Text, p. 386 Fig. 64.
H.W. Catling, "Archaeology in Greece, 1983-84", Archaeological Reports, 30, 1983-84, 27.

CATALOGUE OF ZODIAC MONUMENTS

Part 3.A. The Synagogue Zodiacs.

Item no.

171 HAMMATH-TIBERIAS. Mosaic on a synagogue floor. The central medallion portrays Helios in a quadriga. He is surrounded by a circular zodiac and busts of the four seasons. Excavated 1961; probably fourth century A.D.
Text, pp. 288ff Pl. 121. Fig. 78.
M. Dothan, "The synagogue at Ḥammath-Tiberias, in ASR, 1981, 63-69.
M. Dothan, "The representation of Helios in the mosaic of Ḥammath-Tiberias", Academia Nazionale dei Lincei, 1968, 365.
L. Levine, "Ancient synagogues - a historical introduction", in ASR, 9-10.
M. Avi-Yonah, "La mosaique juive dans ses relations avec la mosaique classique", in La Mosaique Gréco-Romaine, 1963, 327.
M. Avi-Yonah, "Le symbolisme du Zodiaque dans l'art Judéo-Byzantin", in Art in Ancient Palestine, 1981, a collection of Avi-Yonah's essays.
PW, "Z", no. 134, col. 650.

172 YAFA. Fragment of a zodiac mosaic on the floor of a synagogue, arranged as twelve circular medallions around a central circle. Excavated 1953; probably fourth century A.D.
Text, p. 391 Figs 80-81
Goodenough, Jewish symbols, 217-218, Figs. 991-3.
PW, "Z", no. 134, col. 650.

173 NA ᶜARAN. Fragments of a zodiac mosaic attacked by iconoclasts in antiquity. Excavated 1921; c. fifth-sixth century A.D. Text, p. 395 Fig. 82.
Avi-Yonah, "Mosaic pavements in Palestine", QDAP II, 1933, 155; QDAP III, 1934, 51.
Sukenik, The Ancient Synagogue of Beth Alpha, 1932, 38, Pls. 1-5, and Fig. 49.
Goodenough, Jewish symbols, 253-7.
Père Vincent, "Un sanctuaire dans la région de Jéricho. La synagogue de Na ᶜarah", Rev. Bib., LXVII, 1961, 163-173.
Benoit, "Note additionelle", Rev. Bib., LXVIII, 1961, 174-177.

CATALOGUE OF ZODIAC MONUMENTS

Part 3.A. The Synagogue Zodiacs, continued.

Item no.

174 BETH ALPHA. Mosaic on a synagogue floor: Helios surrounded by the zodiac and seasons. Excavated 1929; dated to the early sixth century A.D. In situ.
Text, p. 392 Pl. 125 Figs. 83-6.
Sukenik, The ancient synagogue of Beth Alpha, passim.
Avi-Yonah, "Mosaic pavements in Palestine", QDAP II, 1933, 144-5; QDAP III, 1934, 50.
Goodenough, Jewish symbols, 248-251.
Avi-Yonah, "La Mosaique Juive dans ses relations avec la mosaique classique", in La Mosaique Greco-Romaine, 325-330.
I. Sonne, "The zodiac theme in ancient synagogues and in Hebrew printed books" in Studies in Bibliography and Booklore, I, 1953, 3-13.
S. Renov, "The relation of Helios and the quadriga to the rest of the Beth Alpha Mosaic", Bull. of the Israel Exploration Society, XVIII, 1954, 198-201.
Charlesworth, "Jewish astrology in the Talmud pseudoepigraphica, the Dead Sea Scrolls and early Palestinian synagogues", HTR 70/3-4, 1977, 183-200.
W. Hilgers, "Tierkreis und Sonnengott", Das Rheinische Landesmuseum, VI, 1977, Fig. 87.
Guidoni Guidi, "Considerazioni sulla symbologia cosmica nell'arte guidaiac; lo zodiaco", Felix Ravenna, 117, 1979, 131-154.
Romagnolo, "Beth Alfa. Alcune ipotesi sulla raffigurazione della Zodiaco nella sua antica sinagoga", Terra Santa, 1978, 16-28.
Chiat, "Synagogues and Churches in Byzantine Beit She'an", J Jewish Art VII, 1980, 6-24.
PW, "Z", no. 131, col. 649.

175 HORVAT SUSIYA. Fragments of a possible zodiac mosaic on the floor of a synagogue, later replaced by a geometric pattern. Excavated 1971-2; fifth-sixth century A.D. Text, p. 397.
S. Gutman, Z. Yeivin, E. Netzer, "Excavations in the synagogue at Ḥorvat Susiya", ASR, 1981, 123-128.

CATALOGUE OF ZODIAC MONUMENTS

Part 3.A. The synagogue zodiacs, continued.

Item no.

176 HUSIFA ('Isfiya). Fragments of a zodiac mosaic on the floor of a synagogue. Excavated 1933; fifth-sixth century A.D. Text, p. 396 Figs 79, 87.
Avi-Yonah, "A sixth century synagogue at 'Isfiya", QDAP III, 124-127.
Goodenough, Jewish symbols, 257-8.
Schauenburg, Helios, 62, 219.
PW, "Z", no. 133, col. 560.

177 ^{c}EN GEDI. Mosaic inscription on the floor of a synagogue listing the signs of the zodiac and the names of the months. The synagogue was destroyed c. A.D. 530. Excavated 1970-71.
Text, p. 398 Inscription on p. 516.
Barag, Porat and Netzer, "The synagogue at ^{c}En Gedi", ASR, 116-119.
Levine, "The inscription in the ^{c}En Gedi synagogue", ASR, 140-145.
Yaholom, "Traces of Greek culture in the ancient Hebrew Piyyut", Proceedings of the World Congress of Jewish Studies, Jerusalem, 1977, III, 203-213 (in Hebrew).

178 CAPURNAUM CAPRICORN. Stone relief of Capricorn with two eagles. c. third-fourth century A.D.
Photograph, without comment, in ASR, p. 7.

CATALOGUE OF ZODIAC MONUMENTS

Part 3.B. Iran and early Islam

Item no.

179 THE THRONE OF KHUSRAU, THE TAKHT-I-TĀQDĪS. A number of medieval sources record an elaborate astrological throne belonging to Khusrau II Parwiz (A.D. 591-628). A selection of quotations are given here, while the remaining sources may be found in the discussions by Herzfeld and Saxl, cited below.

(καὶ εἰσελθὼν ἐν αὐτῇ εὗρε τὸ μυσαρὸν εἴδωλον τοῦ Χοσρόου, τό τε ἐκτύπωμα αὐτοῦ ἐν τῇ τοῦ παλατίου σφαιροειδεῖ στέγῃ ὡς ἐν οὐρανῷ καθήμενον, καὶ περὶ τοῦτο ἥλιον καὶ σελήνην καὶ ἄστρα, οἷς ὁ δεισιδαίμων ὡς θεοῖς ἐλάτρευε, καὶ ἀγγέλους αὐτῷ σκηπτροφόρους περιέστησεν. ἐκεῖθέν τε σταγόνας στάζειν, ὡς ὑετοὺς καὶ ἤχους ὡς βροντὰς ἐξηχεῖσθαι ὁ θεομάχος ταῖς μηχαναῖς ἐπετεχνάσατο.

Cedr. Hist. Comp. P. 412 A ad ann. Heracl. 13. (Corp. Ss. hist. Byz. p. 721 sq.)

"And when he entered he found the abominable image of Khusrau and his figure in relief within the spherical ceiling of the palace, as if he were sitting in the sky, and around this (image) were the sun, the moon, and the stars, which this superstitious man served as gods; and he placed around messangers with rods, and from there this fighter of God contrived with the help of machines drops to pour like rain, and noises to sound forth as though they were thunder"

St. Ado's Martyrologium, Patrologia latina (Migne, 123), p. 356.

Fecerat namque Chosroe rex eorum turrim argenteam, in qua interlucentibus gemmis thronum exstruxerat aureum, ibique solis quadrigam et lunae vel stellarum imaginem collocaverat, atque per occultas fistulas aquae meatus adduxerat, ut quasi Deus pluviam desuper videretur infundere. Et dum subterraneo specu equis in circuitu trahentibus, circumacta turris fabricata moveri videbatur, quasi quodam modo rugitum tonitrui, juxta possibilitatem artificis, mentiebatur.

"The king Khusrau made a tower of silver in which he constructed a golden throne studded with shining gems; there he placed the chariot of the sun drawn by four horses and the image of the moon and stars; with the help of hidden pipes he directed a flow of water in such a way that rain seemed to pour from above, as though he were God. And while horses in a subterranean chamber were dragging it around in a circuitous track, the rotated structure of the dome was seen to move, so that the rumbling of thunder was fraudulently simulated by the skill of a craftsman".

CATALOGUE OF ZODIAC MONUMENTS

Part 3.B. Iran and early Islam, continued.

Item no.

179 THRONE OF KHUSRAU, continued.

Firdausi, The Shāhnāma,

From the translation of A.G. and E. Warner, London 1925.

When Farídún
Bestowed Írán upon Íraj—the youngest
Of his illustrious sons—he gave withal
Three things—this very throne, the ox-head mace
To serve as his memorial in the world,
And thirdly what the just Sháh used to term
" The Seven Founts "—a jewel. When Íraj
Departed these were left and Minúchihr
Had joy thereof. Each wearer of the crown
Made some addition to that throne, and when
It came to Kai Khusrau, the fortunate,
He added greatly to its height. It passed
In due succession to Luhrásp and so
On to Gushtásp who, when he saw it, cried :—
" The work of mighty men must not be hidden,"
And to Jámásp that man of worship said :—
What canst thou add to this achievement ? Scan
It everywhere and see what supplement
Thereto will win us praises after death."
Jámásp beheld the throne and saw therein
A key wherewith to open wisdom's door.
Upon it he inscribed the heavenly host,
Which hold the secrets of futurity,
And there portrayed by order of the Sháh
The planet-forms from Saturn to the moon.
The throne thus reached the era of Sikandar,
Each Sháh that looked upon it adding somewhat—
Gold, silver, ivory, and ebony—
Until through ignorance at one fell swoop
Sikandar broke it up ; howbeit the nobles
Concealed and handed down full many a shard.
Thus was it till Ardshír began his reign,
And then the name e'en had grown obsolete.

He found no traces and so made another,
Not as he would, and had small joy therein.
He died and left it as thereafter did
Those that succeeded. When Khusrau Parwíz
Sat on the throne and all the chiefs were loyal
They spake about that other royal throne,
And its past history. Thus said the Sháh :—
" Ye chiefs ! I ask a favour of my lieges
So that I may remake that throne renowned
To keep my name in mind. I need the plan
Drawn by Jámásp—the favourite of the sky—
The one adopted by Gushtásp, the Sháh,
Assisted by Jámásp's advice and skill."

CATALOGUE OF ZODIAC MONUMENTS

Part 3.B. Iran and early Islam

THRONE OF KHUSRAU

Firdausi, The Shāhnāma, continued.

An archimagus reproduced the plan
Whereat the exalt Khusrau Parwíz was glad,
And, this obtained, made haste to reconstruct
With joy the throne, brought forth that of Ardshír,
And gathered all the craftsmen of Írán.
So in the days of that victorious Sháh
They reconstructed that resplendent throne.
The artificers came out of Rúm and Chín,
Makrán, Baghdád, and from Írán itself.
Of craftsmen there were one and sixty score,
Intent upon the fashioning thereof,
And each had thirty workers under him—
Men out of Rúm, Párs, and Baghdád. The Sháh
Commanded all to labour earnestly
To have the throne completed in two years,
And when it was set up high fortune shone.
The height thereof was five score royal cubits[1]
If thou wilt add thereto three score and ten;
The breadth six score for 'twas less broad than high.
A different carpet was laid down each morning
Throughout the month,[2] and seven score thousand plaques
Of gold with patterns fashioned of turquoise
Were set upon the throne, while every nail
And clamp were solid silver; each of them
Weighed sixty-six miskáls. When Sol displayed
Its lamp in Aries the desert lay
Behind the throne which fronted garden-wards,
But when Sol raged in Leo then the back
Was turned toward it;[1] in the month of Tír—
The time for fruit and festival—the throne
Stood fronting toward the garden and the fruits
To catch their scents; in Winter, in the days
Of wind and wet, none felt them seated thus;
The top was all shut in right royally
With beaver-skins and sables. A thousand balls
Withal of gold and silver glowed like brands[2]
Upon the fire, each five and twenty score
Miskáls in weight and coral-hued with heat.
One half was in the fire, the other half
Was turned towards the noble warriors.
The host of heaven, planets, Zodiac,
The bright moon in whatever Sign soe'er,
And all the bodies, fixed or wandering,
Were visible to the astronomer,
Who saw what portion of dark night had passed,
And how much sky had moved athwart the earth.
Among these tables some were made of gold,
And what a wealth of jewels was therein!
Not e'en an expert could compute their tale.

CATALOGUE OF ZODIAC MONUMENTS

Part 3.B. Iran and early Islam

THRONE OF KHUSRAU

Firdausi, The Shāhnāma, continued.

The cheapest ran to some three score dínárs
And ten; seven hundred would not purchase some,
So strike an average. Full many a ruby
Was there whose value none could estimate:
They lit the night like Venus in the sky.
Upon the throne-steps were three rows of seats
Enriched with gems. From one row to the next
There were four steps of gold inlaid with jewels.
One row, whose ornaments were shaped like heads
Of rams, took thence its name; the next above
Was known as "Lapis-lazuli" as higher
Than wind or dust-clouds, while the third was all
Turquoise, and every one that saw it burned
With longing. Rural chiefs and underlings
Sat on the Rams' Heads' row while cavaliers—
Men un-afleared upon the day of battle—
Sat on the cirque of lapis-lazuli.
The turquoise seat was for the minister
That was engaged in governing the realm,
And he that sat there must be wise and loyal.
A fabric was spread out of cloth of gold
Two score and seventeen cubits long, its fringe
All strung with jewels held by golden threads.
A map of heaven was inscribed thereon
Where Saturn, Mars, Sol, Jupiter,[1] and Venus,
With Mercury and shining Luna, showed
The fortunes of the Sháh; there too appeared
The Seven Climes, and peers of Párs and Rúm;[2]
The seven and forty Sháhs,[3] their faces, thrones,
And crowns, were shown, those of the kings of kings,
Of woven gold. The fabric was unique.
A man of Chín, unrivalled in such work,
Had given seven years to weaving it.
One New Year at Urmuzd of Farwardín
He came before the monarch of Írán,
And brought that royal carpet to the Sháh:
The nobles let him pass. He laid it down
On New Year's Day. The Sháh's joy was complete.

CATALOGUE OF ZODIAC MONUMENTS

Part 3.B. Iran and early Islam.

Item no.

THRONE OF KHUSRAU, continued.

Al-Tha'ālibī, Ghurar akhbār mulūk al-Fars wa siyarihim. The Arabic text is from Zotenburg, Paris, 1900, pp. 698-700. Al-Tha'ālibī is giving a description of precious objects owned by Khusrau Parwiz (Abarwīz ابرويز), each separate item beginning with the words "and among them..." (ومنها).

ومنها تخت طاقديس وهو سرير من العاج والساج وصفائحه ودرابزيناته من الفضة والذهب وطوله مائة وثمانون ذراعًا وعرضه مائة وثلثون ذراعًا وارتفاعه خمس عشرة ذراعًا و[فى] مراقيه سُرُر من الشيز والآبنوس مضببة بالذهب وعليه طاق من الذهب واللازورد فيه صور الفلك والكواكب والبروج والاقاليم السبعة وصور الملوك وهيئاتهم فى المجالس والحروب والمتصيّدات وفيه ما يدلّ على معرفة ساعات النهار وله اربعة بُسُط على مقداره من الديباج النسيج المرصّع باللآلئ واليواقيت يختص كلّ واحد منها بما يشاكله ويوافقه من فصول السنة، ومنها التاج الكبير الّذى فيه ستّون منًا من الذهب الابريز وكان مرصّعًا باللآلئ الّتى تحكى بيض العصافير واليواقيت الرمّانيّة الّتى يُضئ منها الظلام ويُستصبح بها فى اللّيالى المرخية سدولها وقصب الزمرّد الّتى تسيل لها عيون الافاعى وكان يعلّق من الايوان سلسلة ذهب ذرعها سبعون ذراعًا يعلّق بها التاج كيما يماس رأس الملك ولا يؤذيه ولا يثقله

"Among them was the Takht-i-Ṭāqdīs, and this was a throne made of ivory and teak of which the plaques and railings were of silver and gold. Its length was one hundred and eighty cubits, its width one hundred and thirty cubits, and its height fifteen cubits. On its ascent were elevated seats of black wood and ebony, with a frame of gold. The dome was of gold and lapis-lazuli and represented on it was the celestial sphere with the

CATALOGUE OF ZODIAC MONUMENTS

Part 3.B. Iran and early Islam.

Item no.
179 THRONE OF KHUSRAU, continued.

"stars, signs of the zodiac and the seven climes. There also were portrayed the kings in different situations, banqueting, in battle or hunting; and on (the dome) a mechanism indicated information concerning the hour of the day. Fully covering the throne were four carpets of brocade, threaded with adornments of pearls and rubies, each carpet fashioned to represent a season of the year.

" Also among them is the great crown composed of sixty mann of of pure gold, incrusted with pearls as big as sparrows' eggs, and rubies which glow in the dark and serve to illuminate the nights, and threaded emeralds which have an effect on the eyes of vipers. Suspended from the iwan was a golden chain which measured seventy cubits, and hanging from it was the crown, that it might be in contact with the king's head without harming him or oppressing him."

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P.Ackerman, "The throne of Khusrau", Bull. American Instit. of Iranian art and archaeology, IV, 1936, 106-109.

K.Lehmann, "The Dome of heaven", Art Bulletin, XXVII, 1945, 24.

H.P.L'Orange, The iconography of cosmic kingship, 1953, 18ff.

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Part 3.B. Iran and the Near East

Item no.

180 QUṢAYR ʿAMRA, a small palace and ḥammam (bath) in the Jordanian desert, has a star-map, including the zodiac, painted in the dome over the calidarium. The map has been constructed on a grid of declination circles and radii. Umayyad period, early eighth century A.D. Text, p. 427 ff. Pl. 141 Fig. 101

A. Musil et al, Kuṣejr ᶜAmra, 1907 (2 vols.).
Creswell, Early Muslim Architecture, I, pt. 2, 338-350.
F. Saxl, "The Zodiac of Quṣayr ᶜAmra" in ibid., 424-431.
A. Beer, "The Astronomical Significance of the Zodiac of Quṣayr ᶜAmra" in Creswell, Early Muslim Architecture, 432-440.
O. Grabar, "The painting of the six kings at Quṣayr ᶜAmrah", Ars Orientalis, I, 1954, 185-187.
J. Sauvaget, "Remarques sur les monuments omeyyades I: Châteaux de Syrie", Journal Asiatique, CXXXI, 1939, 13-15.
Ettinghausen, Arab painting, 29-33.
Zayadine, The frescos of Quṣayr ᶜAmra.
Almagro et al, Quṣayr ᶜAmra, residencia y baños Omeyas.

181 CONSTANTINOPLE, BATH. According to Pseudo-Codinus, Topographica, 18, Constantine the Great built a bath in Constantinople which had a large swimming pool with the zodiac, seven halls for the seven planets and twelve stoai for the months. Destroyed under John Tsimiskes, who ruled A.D. 969-976. Text, p. 431.
Hanfmann, Seasons sarcophagus II, 116, note 42.

Three important buildings of the first century A.D. were undoubtedly decorated with the zodiac, though the sources do not specify its presence. Nevertheless, the indisputable prestige of the buildings warrants them a place in the catalogue.

CATALOGUE OF ZODIAC MONUMENTS

Part 3.C. Palaces of the first century A.D. with cosmological decoration.

Item no.

182 NERO'S DOMUS AUREA. Suetonius Nero 31 mentions that the main banqueting hall was domed, and revolved constantly, day and night, "like the heavens". The allusion to the heavens suggests that the dome must have had a cosmological decoration.
Begun A.D. 64. Text, p. 424-5.
Boethius, The Golden House of Nero.
Ward Perkins, "Nero's Golden House", Antiquity XXX 1956, 209-219.
Lehmann, "The Dome of Heaven", Art Bulletin, XXVII, 1945.

Item no.

183 PALACE OF DOMITIAN completed A.D. 92, the work of the architect Rabirus. There was evidently a domed ceiling decorated with the constellations.
Martial, Epigrams VII, LVI.

Astra polumque pie cepiste mente, Rabiri,
Parrhasiam mira qui struis arte domum.
Phidiaco si digna Iovi dare templa parabit,
has petet a nostra Pisa Tonante manus.

(Loeb translation)

"Heaven with its stars you, Rabirus, have conceived in your pious soul, who by wondrous art build the mansion of the Palatine. If Pisa shall be set to give Phidian Jove a temple worthy of him, she will beg of our Thunderer these hands of yours."

Statius (Silvae 4,2) described a banquet given by Domitian in the new palace, saying that it was like resting with Jupiter amid the stars.
References to Domitian's palace were noticed too late to be included in the text.

184 BABYLON, HALL OF JUSTICE. Domed hall recorded by Philostratus (v. Apollonius of Tyana I, 25). In the dome, on a lapis lazuli background, were the images of the city's gods, golden "as if from the ether". The text is quoted and discussed above, p. 423.
Lehmann, "Dome of Heaven", Art Bulletin, XXVII, 1945, 22.

CATALOGUE OF ZODIAC MONUMENTS

Part 4. The coins

The question of zodiac iconography on coins merits a separate study. For this reason the evidence of the coinage has been used selectively and sparingly throughout the thesis. Catalogue entries, therefore, have been confined to:
the Alexandrian zodiac series;
coins that bear the complete zodiac;
a small selection of coins carrying a single sign;
selected examples of Aion with the ring of signs.

AE : bronze AR : silver AV : gold

Item no.

THE ALEXANDRIAN ZODIAC COINS

A series of bronze drachmae struck in Alexandria in A.D. 144/5 to mark the beginning of a new Sothic cycle, discussed above on pp. 163-167 and in Appendix A.11. The bibliography is much the same for each coin. To my knowledge the most recent discussion of the series is that of C.W.Carlson, who includes two coins not previously published (acquired by the John Hopkins University Collection), as well as a full set of photos.
The bibliography is as follows:
BMC Alexandria and the Nomes nos 1078-1090
C.W.Carlson, "Rarities 3, the zodiac series", JSAN, 1972-3, 46 f.
D.Levi, "Aion" Hesperia XIII, 1944, 294.
S.Skowronek, On the problems of the Alexandrian mint.
B.Head, Historia Numorum, 1911, 863.

Each coin in this series has the head of Antoninus Pius on the obverse. The zodiac, or zodiacal signs, are portrayed on the reverses, as follows:

185 AE Busts of SARAPIS and ISIS, jugate left, Sarapis wearing the modius and Isis the globe and horns. The busts are surrounded two concentric rings, each containing the signs of the zodiac with Aries at the top. The signs in each ring co-incide exactly.
Text, p. 164-5.
BMC Alexandria, no. 1078.

CATALOGUE OF ZODIAC MONUMENTS

Part 4. The coins

Item no.

186 AE Bust of SARAPIS surrounded by two concentric rings. Outer ring: the signs of the zodiac, clockwise, Aries at the top. Second ring: busts of the sun, moon and planets. BMC Alexandria no. 1079.

187 AE Busts of the SUN and MOON encircled by the zodiac, with Aries at the top. Listed by Carlson, JSAN, 1972-3, 46.

188 AE Busts of the SUN ans MOON surrounded by two concentric rings. Inner ring: busts of the five planetary deities. Outer ring: the signs of the zodiac. The sun is radiate; the moon with a crescent before her, convex side outwards. Carlson, JSAN, 1972-3, noted a newly acquired specimen in the collection of the John Hopkins University. Photograph included.

189 AE THE SUN IN LEO (the House of the sun). Bust of the sun with a radiate crown, right, and star over a lion leaping right. Pl. 134. BMC 1084.

190 AE THE MOON IN CANCER (the moon's House). Bust of the moon in a crescent, right, facing a star. Below, a crab whose claws encircle the crescent. Pl. 139. BMC 1082.

191 AE MERCURY IN VIRGO (Day House of Mercury). Bust of Mercury, left, with caduceus and star in front. To the left Kore standing, facing right and holding a torch. Specimen in the John Hopkins University Collection. Carlson, JSAN, 1972-3, illustrated.

192 AE MERCURY IN GEMINI (Night House of Mercury). Bust of Mercury, right, star in front. Below, the twins as Hercules with club and lion skin, and Apollo with a lyre, facing each other. Specimen in the John Hopkins University collection, illustrated by Carlson, JSAN 1972-3.

CATALOGUE OF ZODIAC MONUMENTS

Part 4. The coins.

Item no.

193 AE VENUS IN LIBRA (the Day House of Venus). Diademed bust of Venus, left, with star in front. Below, a male figure carrying the scales, arranged horizontally, as though floating. Specimen in the John Hopkins University Collection. Illustration given by Carlson, JSAN 1972-3.

194 AE VENUS IN LIBRA (the Day House of Venus). Bust of Venus, right, with star in front. Below on right a standing male figure carrying scales. John Hopkins University Collection. Plate in Carlson, JSAN, 1972-3.

195 AE VENUS IN TAURUS (Night House of Venus). Bust of Venus, left, and star, above a bull butting left. Pl. 137. BMC 1080.

196 AE MARS IN SCORPIO (Day House of Mars). Helmeted bust of Mars, left, facing a star over a scorpion. Pl. 138. BM 1923 1 N 2

197 AE MARS IN SCORPIO (Day House of Mars). Bust of Mars, right, star in front, over a scorpion. Specimen in the John Hopkins University Collection, plate in Carlson, JSAN, 1972-3.

198 AE MARS IN ARIES (Night House of Mars). Helmeted bust of Mars, right, facing a star over a ram running right. BM 1950 10 6 207. Illustrated in Carlson, JSAN 1972-3.

199 AE JUPITER IN SAGITTARIUS (Day House of Jupiter). Bust of Jupiter, right, star in front; below centaur running right, shooting with bow. Pl. 135. BMC 1087.

200 AE JUPITER IN PISCES (Night House of Jupiter). Bust of Jupiter, right, star in front; below, two fish, one above the other, one facing right, the other left. Pl. 136. BMC 1090.

CATALOGUE OF ZODIAC MONUMENTS

Part 4. The coins.

Item no.

201 AE SATURN IN CAPRICORN (Day House of Saturn). Bust of Saturn, right, falx behind, star in front. Below, Capricorn right. Specimen in the John Hopkins University Collection, illustrated by Carlson, JSAN, 1972-3.

202 AE SATURN IN AQUARIUS (Night House of Saturn). Bust of Saturn, veiled, falx behind, star in front. Below young male figure swimming or flying left, looking back, holding a vase. Pl. 140. BMC 1089.

COINS WITH COMPLETE ZODIACS

203 AE Amastris, in Paphlagonia. Reign of Julia Maesa.
Obv. Bust of Julia Maesa as Demeter
Rev. Hera and Zeus, standing, surrounded by a counterclockwise zodiac, Aries oriented to the top. Pl. 127.
BMC Pontus, etc. p. 89, Pl. XX, 13.

204 AE Perinthus, in Thrace. Reign of Severus Alexander.
obv. Bust of Severus Alexander.
rev. Enthroned Zeus, an eagle at his side, surrounded by Helios and Selene, Gaia and Thalassa, and encircled in a zodiac running clockwise, Aries oriented to the top. Pl. 126.
BMC The Tauric Chersonese, etc. p. 157.

205 AE Nicaea, in Bithynia. Reign of Antoninus Pius.
obv. Bust of Antoninus Pius.
rev. Enthroned Zeus with sceptre and thunderbolt, surrounded by Helios and Selene, Gaia and Thalassa, and encircled by a counter-clockwise zodiac, Aries oriented to the top. Paris Cabinet. Sketch published by Cook, Zeus, I, p. 752.

206 AE Tium, in Bithynia. Zeus in the zodiac.
Head, Historia Numorum, 518.

CATALOGUE OF ZODIAC MONUMENTS

Part 4. The coins

Item no.

207 AE Aegae, in Cilicia. Late Roman ? Head of Medusa within the zodiac.
Mentioned by G.F.Hill, BMC, Lycaonia, etc. p. xii (Additions and corrections).

208 AE Sardeis, autonomous coin. Zeus with Nike on his hand enthroned at the centre of the zodiac.
Cook, Zeus I, p. 753, quoting Eckhel, Doctr. num. vet. iii, 115.

209 AE Sidon, car containing the baetyl of Astarte, sometimes within the zodiacal ring . Inscription COL AVR METROP SIDON
Head, Historia Numorum, 789.

210 AE Akko-Ptolemais. Reign of Elagabalus.
Obv. Bust of Elagabalus, right, laureate.
Rev. Artemis Huntress, standing to right in a distyle temple and surrounded by the zodiac. Inscription: COL PTOL
Kadman, Coins of Akko-Ptolemais, cat. no. 165.

211 AE Akko-Ptolemais. Reign of Valerian.
Obv. Bust of Valerian, left, laureate.
Rev. Artemis Huntress standing right in a distyle temple, enclosed by the zodiac. Inscription: COL PTOL
Kadman, Coins of Akko-Ptolemais, cat. no. 235.

SELECTED COINS CARRYING A SINGLE ZODIACAL SIGN

212 AR Tarsus. Time of Mazaios.
Obv. Ba'al of Tarsus;
rev. Lion with star and crescent.
BMC Lycaonia, etc. Tarsus, no. 60.

213 AR Miletus. c. 350 B.C.
Obv. Head of Apollo Didymaeus.
rev. Lion looking back at a star.
BMC Ionia, Miletus, no. 51.

CATALOGUE OF ZODIAC MONUMENTS

Part 4. The coins.

Item no.

214 AR Roman imperial.
Obv. Head of Augustus;
rev. Nike flying over Capricorn, who has a cornucopia on his back. Between Nike and Capricorn is the inscription: AVGVSTVS
BMC Augustus, no. 350

215 AV Roman imperial.
Obv. Head of Augustus;
rev. Capricorn with rudder, globe, and cornucopia. Underneath, the inscription: AVGVSTVS.
BMC Augustus, no. 344.

216 AE Antioch. A.D. 105.
Obv. Head of the Tyche of Antioch, right, veil and turreted crown;
rev. Ram running right and looking back; star and crescent. Pl. 130.
BMC Galatia, etc. p. 160, Pl. XIX, 8.

217 AE Damascus. Reign of Philip sen. and jun.
Obv. Bust of the Tyche of Damascus.
rev. Bust of the Tyche of Damascus in a shrine decorated with with a ram, running right and looking back. Beside the shrine two female figures hold aloft cages containing cocks . Pl. 132.
BMC Galatia, etc. p. 287.

218 AE Nisibis. Reign of Severus Alexander.
Obv. Severus Alexander with Julia Mamaea.
rev. The Tyche of Nisibis, with veil and turreted crown. Overhead, a ram running right and looking back. Pl. 131.
BMC Arabia, etc. p. 120, Pl. XVII, 9.

219 AE Rhesaena Reign of Elagabalus.
Obv. Bust of Elagabalus, right, laureate.
rev. Centaur discharging arrow right.
BMC Arabia, etc. p. 125, no. 4. Pl. XVIII, 4.

CATALOGUE OF ZODIAC MONUMENTS

Part 4. The coins

Item no.

220 AE Singara A.D. 242-244
Obv. Bust of Gordian III.
rev. Tyche of Singara with veil and turreted crown. Overhead Sagittarius running right and shooting.
BMC Arabia, etc. p. 134, Pl. XIX, 2.

ROMAN EMPERORS PORTRAYED AS AION WITH THE ZODIAC RING.
SELECTED COINS AND ONE MEDAL

221 AV Roman imperial. A.D. 121-122.
Obv. Bust of the Emperor Hadrian, right, laureate.
rev. The emperor as Aion, semi-draped and standing in the zodiac ring. He holds a globe on which a phoenix is standing. The external section of the zodiac ring (on Aion's right) was marked with the signs, now almost worn away.
Mattingly and Sydenham, RIC II, 356, no. 136.

222 AV Tigium. Roman imperial.
Obv. Head of Constantine I, right, laureate.
rev. The emperor in military costume seated on a cuirass, his hand on the zodiac ring. Behind him Victory places a wreath on his head.
Mattingly and Sydenham, RIC VII, p. 368, no. 54.

MEDALLION

223 AV Obv. Bust of Commodus, right, laureate.
rev. Commodus as Aion, semi-draped, holding a sceptre and the zodiac ring, through which the seasons pass.
H.Grueber, S.R.Poole, Roman Medallions in the BM, p. 24, no. 15.

LIST OF FIGURES

20 Shell cylinder seal, Early Dynastic period. British Museum 102546.

21 Neo-Assyrian cylinder seal; Ashmolean Museum, cat. no. 588 (Buchanan 1966).

22 Akkadian cylinder seal in lapis lazuli showing joined twins. Bibliothèque Nationale, cat. Pl. XII, no. 132 (Delaporte, 1910).

23 Seal impression showing joined twins. Yale Babylonian Collection, dated to the seventh year of Samsuiluna (c. 1749-1712 B.C.) YBC 4313.

24 Sketch of Leo, Hydra and Capricorn from an unfinished boundary stone in the British Museum, 90850.

25 Akkadian cylinder seal. Ploughing scene. Yale Babylonian Collection, NBC 5990.

26 Sketch of Sagittarius from a kudurru in the Iraq Museum. IM 14175.

27 and 28 Impressions of Sagittarius found in the archives of Tiglath-Pileser, twelfth century B.C. Berlin, VAT 16 394 and VAT 16 396.

29 Elamite seal of the seventh century B.C. portraying Sagittarius. Pierre Amiet, Glyptique Susienne, no. 2190.

30 Seals from Kültepe, Anatolia, portraying Capricorn and Aquarius; nineteenth century B.C. Ankara Museum (Bahadir Alkim, Anatolia I, no. 85).

31 Fragment of relief from Lagaš, c. 2,300 B.C., showing the perpetually flowing vase. Louvre.

32 Goddess with the flowing vase from the stele of Ur-Nammu, third dynasty of Ur. University of Pennsylvania Museum.

33 Seal from the reign of Ammiṣaduqa, Year 16 (first dynasty of Babylon). Star and crescent accompany the flowing vase. Yale collection MLC 807.

34 Fragment of a kudurru. Louvre, SB 3227. Seidl, no. 22.

35 Kudurru fragment, British Museum 113 891. Seidl, no. 66.

36 Elamite bronze helmet decorated with appliques. A god, dressed in snakeskin (representing the sky?), holds a flowing vase and is flanked by goddesses. Fourteenth century B.C. Metropolitan Museum, N.Y.

37 Reconstruction of a strip-map of the ecliptic from the sketches on VAT 7851 (Pl. 52), VAT 7847 (Pl. 53), VAT 6448 (Pl. 54), and the description of Cancer on VAT 9428. The blank second rectangle is for the Gemini, who are also described on VAT 9428. The twins are said to be bearded male images; the twin to the west carries a whip or goad, and the other a sickle-axe. Both have a star on their head and both are said to be wearing a kurkuru (?). (p. 62)

38 Map of the constellations as they appear on the Farnese globe.

39 Achaemenid seal showing a deity mounted on Capricorn. The deity carries a dagger. Borovsky collection. (Pierre Amiet, L'art antique du Proche-Orient, no. 817).

40 Seal impression from Seleucid Uruk showing the astrological triplicity Pisces, Cancer, Scorpio. Bibliothèque Nationale, A 810.

41 Seal impression from Seleucid Uruk, showing Cancer and Leo with the moon between (the moon entering its astrological House in Cancer ?) Bibliothèque Nationale, A 806.

42 Sketch of the design on the Ruvo vase, after the drawing in DdA vol. I, under "Atlas". Item no. 2.

42a Sketch showing the treatment of the celestial sphere on a comparable vase portraying Hercules and Atlas. The vase is a red-figure amphora of c. 450 B.C. from Campania. The painting of the celestial sphere is cut by the rim of the amphora, and its nature is sketchily suggested by a crescent moon and two stars. BM Cat. of Vases F 148.

43 Small fragment of a marble statue wearing a zodiac baldric. Item no. 40

44 Fragment of a bronze disk, once part of an anaphoric clock. Pisces, Aries, Taurus, and one of the Gemini remain of the zodiac. The other constellations on the fragment are Andromeda, Perseus, Auriga and Triangulum. Salzburg Museum.

45 The Hermitage Cameo, 263, probably commemorating the Battle of Actium. Item no. 22.

46 The New York Capricorn cameo, no. 29. 175 4. Perhaps an apotheosis monument. A similar cameo is in Berlin. Item no. 23.

47a The Livia gem. Bibliothèque Nationale, no. 2175. Item no. 25.

47b Possible reconstruction of the broken corner of the Livia gem, suggesting that the "two goats" (above, p. 156) are in fact a double-ended Capricorn of the type on the New York cameo, in Fig. 46.

48 Drawing of a lost ceiling from Hadrian's villa published by Ponce in 1789. Arabesques antiques des bains de Livie et de la ville Adrienne, Pl. 9. Item no. 31.

49 Three bronze plaques found in Ostia portraying signs of the zodiac. Item no. 63.

50 Bronze figurines found in Angleur, France, portraying zodiacal signs. The standing male may once have carried the balances. Item no. 71.

51 Drawing of a gem published by Gori in 1750 showing Sarapis-Jupiter with Sagittarius. Item no. 76.

52 Sketch after a drawing published by King in 1860 showing Sarapis-Jupiter with Cancer. Item no. 77.

53 Drawing of the Sarapis gem noticed by Pagenstecher in Cairo and republished by Hornborstel. Compare the drawing with the British Museum gem in Pl. 93. Item no. 73.

54 Drawing of a gem published by Gori in 1750 showing the head of Sarapis surrounded by an unusual zodiac. Item no. 75.

55 Gem portraying Pan in the zodiac. From Herbig, Der Griechische Boksgott (1949), p. 64. Item no. 91.

56 Drawing of the horoscope gem purchased by Prof. Seyrig in Beirut, 1967. Item no. 167.

57 The Hatra zodiac. From the plate published in Sumer X, 1954, opp. p. 91. Item no. 92.

58 Mosaic from Bingen. Sol in a quadriga ringed by the zodiac. Item no. 93.

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60 Artemis of Ephesus. Sketch of a statue from Naples with five signs. The statue is in alabaster with bronze face and hands. Item no. 112.

61 Sketch of the design on a mosaic from Carthage, showing four horses sharing a single head. (Dunbabin, 1978, Pl. XXX, 91.)

62 Sketch of the design on a mosaic from Carthage, showing horses and vegetation representing the seasons. Spring and autumn grow from the container in the centre, with summer and winter at either end. (Dunbabin, 1978, Pl. XXX, 92.)

63 Black and white mosaic from a tomb, Isola Sacra, Ostia. The seasons pass through a zodiac ring held by an elderly, seated Aion. Item no. 88.

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65 Palmyra. Sketch of the zodiac ceiling from the north thalamos of the Temple of Bēl. Item no. 126.

66 Palmyra, Temple of Bēl. Sketch of the lintel over the door into the north thalamos.

67 The horoscope coffin of Heter, now lost. Drawing after Neugebauer and Parker EAT III, no. 71 , Pl. 50. Item no. 142.

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69 Al-Salamūn. Sketch of the painted ceiling in Rock tomb 6. Harpocrates squatting, his finger raised to his mouth, is surrounded by the signs. Item no. 146.

70 Sketch of the zodiac painting in the coffin of Petemenophis. From the Theban necropolis. Item no. 141.

71 Zodiac fragment from the Temple of Isis, Shanhūr. Item no. 19.

72 Al-Salamūn. Sketch of a damaged painting on the ceiling of Rock Tomb 3A. Isis-Sothis, seated on a Dog, is surrounded by a ring of zodiacal signs. Item no. 144.

73 Al-Salamūn. Sketch of the painted ceiling in Rock Tomb 3B. Harpocrates, squatting, is enclosed in the zodiac ring. Item no. 145.

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75 The Maestricht stele, with decorative Capricorns over an arched niche. Item no. 156.

76 The Strasbourg Capricorn. Item no. 158.

77 Confronted Capricorns with a globe, from the soffit of a door. Item no. 157.

78 Hammath-Tiberias. Plan of the synagogue showing the central position occupied by the zodiac. Extracted from ASR p. 66. Item no. 171.

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80 Yafa. Plan showing the situation of the zodiac in the synagogue. Extracted from Goodenough, Jewish symbols, Fig. 991. Item no. 172.

81 Yafa. Diagram showing the extent and theme of the remaining mosaic. Extracted from Goodenough, Jewish symbols, Fig. 992.

82 Naʿaran. Plan of the mosaic on the floor of the synagogue. Iconoclasts had carefully pecked out sections of the mosaic to deface, but not obliterate, the images. Most of the zodiacal signs are still easily recognized. Extracted from ASR, 136. Item no. 173.

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84 Beth Alpha. The Gemini from the zodiac mosaic. The twins appear to be joined like Siamese twins.

85 Beth Alpha. Sagittarius from the zodiac mosaic. The sign is portrayed as a human archer instead of a centaur.

86 Beth Alpha. The season Autumn from a corner of the square surrounding the zodiac mosaic.

87 Husifa. The season Autumn from a corner of the square surrounding the zodiac mosaic.

88 Naʿaran. The season Autumn from a corner of the square surrounding the zodiac mosaic.

89 Naʿaran. Virgo from the zodiac mosaic. Although partially obliterated and repaired with cement by iconoclasts in antiquity, the figure is still easily recognized as that of a woman with her hands raised in prayer. The shape of the arms suggest a greater degree of realism than at Beth Alpha.

90 Beth Alpha. Virgo from the zodiac mosaic. The virgin is seated and bejewelled.

91 Beth Alpha. Aquarius is portrayed as a man drawing water from a well. Such an image was to become a popular icon for Aquarius in Islamic zodiacs.

92 - 93 Mosaics portraying family groups from cave tombs at Edessa. Note the long statuesque necks and the linear methods used for portraying the faces. The stroke forming the nose is joined either to the eyes or to the eyebrows.

94 A ceramic plate from tenth century Islamic Iraq, painted with the design of a warrior on horseback.

95 Family group in mosaic from a cave tomb at Edessa. Compare the method used for drawing the features of the boy in the foreground with the painted features of the warrior on the plate. In both cases the eyebrows join in a double curve, and the lines of the nose drop away from the corners of the eyes. The two images are separated by many hundreds of years, but appear to represent two points in the history of a single tradition.

96 Sketch of the arrangement of the zodiac on the ceiling of the Ponza Mithraeum. Reproduced from Gundel, 1978. Item no. 49.

97 Fragment of an astrological planisphere from Meroe, Sudan, showing Capricorn and Aquarius. Item no. 169.

98 - 99 Illustrations of the constellations Andromeda and Auriga from the Bodleian Library's copy of Al-Ṣūfī's Treatise on the fixed stars (Marsh 144), dated by colophon to 400 A.H./A.D. 1009-10.

100 Sasanian silver plate in the Teheran museum which may portray Khusrau's moveable throne. The throne appears to be raised over a subterranean space, perhaps on gimbals.

101 Sketch showing the arrangement of the constellations in the dome at Qusayr ʿAmra. After Creswell, Early Muslim Architecture, II/2.

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2 Boundary stone from the reign of Nebuchadnezzer I (1124-1103 B.C.) BM 90858.

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4 Winged, human-headed bull deity. Entrance guardian from Khorsabad, eighth century B.C. Louvre.

5 Stele of Aššur-naṣir-apli II (883-859 B.C.) BM 118805.

6 Silver statuette from Susa, second millennium B.C. The deity has stars engraved on his chest, and carries a ram. Louvre.

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8 Libation vase dedicated by Gudea of Lagaš to Nigizzida. Louvre.

9 Cylinder seal. Bibliothèque Nationale.

10 Chalcedony cylinder seal, Ashmolean Museum 1889 373. A sacrifice or ritual, presumably for the spring months, as Pisces, Aries, Taurus and the Pleiades are indicated.

11 Hematite cylinder seal, collection Mrs. W.H. Moore (Catalogue G. Eisen, 1940, no. 59). First dynasty of Babylon. The figure carrying the ram is wearing a horned tiara and therefore represents a deity. A fish, ram and bull (Pisces, Aries and Taurus?) are placed in the field between the figures at the left.

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15 Stele from Tell Asmar, showing Adad supported on a bull.

16 Cylinder seal, first dynasty of Babylon, from the Brett collection, 53 (H.H. van der Osten, Ancient Oriental Seals in the collection of Mrs. Agnes Baldwin Brett, 1936).

17 Cylinder seal, early Akkadian period from Tell Asmar. Oriental Institute, Chicago, AS 32: 1276.

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25 Bull in glazed tiles from the Iš̆tar Gate, Babylon. Now in Berlin.

26 Lion in glazed tiles, Iš̆tar Gate, Babylon. Now in the Louvre.

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28 Cylinder seal, Berlin, VA 508.

29 Cylinder seal of Sharkalisharri; second half of the third millennium B.C. Louvre, Collection De Clerq, 46.

30 Cylinder seal from Tell Asmar, Oriental Institute, Chicago, As 35 74.

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32 Assyrian cylinder seal. Brett collection, Cat. no. 87 (Eisen, 1940).

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39 Statue of Gudea with a flowing vase. From Lagaš̆, 2275-2260 B.C. Louvre AO 22126.

40 Boundary stone from the reign of Marduk-nadin-akhê. British Museum 90840.

41 Babylonian stamp seal in bluish chalcedony. First millennium B.C. Pierpont Morgan Collection, no. 803 E (Porada, 1948).

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43 Babylonian cylinder seal, c. ninth century B.C. Pierpont Morgan Collection, Cat. no. 749 E (Porada, 1948).

44 Urartian bronze blinker, c. eighth century B.C. See note 67 on p.

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51 Cylinder seal, collection Mrs. W.H. Moore, Cat. no. 82 (Eisen, 1940).

52 Seleucid period; tablet with a sketch of Taurus, the Moon and the Pleiades. Berlin, VAT 7851.

53 Seleucid period; tablet with a sketch of Leo, Hydra and the planet Jupiter. Berlin, VAT 7847.

54 Seleucid period; tablet with a sketch of Virgo, the planet Mercury, the end of Hydra's tail, and Corvus. VAT 6448.

55 Seal impression from the archives of Tiglath-Pileser, twelfth century B.C. Berlin, VAT 16396.

56 Seal impression from the archives of Tiglath-Pileser, twelfth century B.C. Berlin, VAT 15468.

57 Seal impression from the treasury of Persepolis, PT4 506. Confronted goat-fish support deities holding a dagger. The seal belonged to Aspathines.

58 Seal impression from the treasury at Persepolis, PT4 841. Sagittarius.

59 Agate gemstone, probably of East Greek workmanship, portraying Sagittarius. Attributed to the mid-fifth century B.C. Metropolitan Museum, New York, Cat. no. 67, p. 66 (Richter, 1956). Item no. 1.

60 Round zodiac from the temple of Hathor, Dendera. Sandstone relief from the late Ptolemaic period (before 30 B.C.). Louvre. Item no.16.

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63 Cast of an engraved garnet portraying the bust of Helios surrounded by the zodiac. British Museum, Cat. no. 1168 (Walters, 1926). Item no. 8.

64 Cast of an engraved sardonyx portraying a scorpion holding balances. British Museum, Cat. no. 2526 (Walters, 1926), Item no. 13 .

65 Relief of Leo, portraying a conjunction of the moon with Mars, Mercury and Jupiter in that constellation. The relief represents the coronation horoscope of Antiochus I of Commagene (7 July, 62 B.C.), and was carved for the king's great monumental tomb on Nimrud Dagh. Item no. 12.

66 Calendar relief from Athens, the signs of the zodiac interspersed between figures representing the yearly cycle of the Athenian calendar. Item no. 10.

67 The Gemme Augustea, a cameo probably cut to mark the triumph awarded to Tiberius in A.D. 12. Kunsthistorisches Museum, Vienna, Item no. 21.

68 Half of an ivory diptych portraying the apotheosis of an emperor. The zodiac from Libra to Pisces is shown in the top right hand corner. British Museum. Item no. 38.

69 Bust of Commodus-Hercules. Palazzo dei Conservatori, Rome, Item no. 33.

70 Gold medallion from a hoard found at Abukir. Now in Berlin, Staatliche Museum no. 230/1907. Item no. 34.

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72 Torso wearing a baldric decorated with the zodiac. Vatican Museum (Museo Chairamonti 592). Item no. 39.

73 Aureus of 18-17 B.C. The head of Augustus is on the obverse, and the reverse shows Mars with the Roman standards. A small temple, presumably the round temple portrayed on the coin, was built for Mars on the Capitol in c. 20 B.C. (BMC "Augustus", 366).

74 Silver coin of c. 17 B.C. Mars is shown standing on a low pedestal, his weight taken on the right leg. He holds a spear in the right hand. Compare the pose with the figures shown in Pls. 72 and 73. (BMC "Augustus", 86).

75 Statue of Mars in Parian marble, Museo Capitolino.

76 Aureus from the reign of Hadrian portraying a fully-draped Mars with shield and spear. Compare the image with the statue in Pl. 75. (BMC "Hadrian", 109).

77 Relief fragment. Virtus wearing a baldric decorated with the signs of the zodiac from Scorpio to Pisces. Villa Medici. Item no. 41.

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82 Tauroctony relief from Sidon. The scene is entirely surrounded by the zodiac, which has been integrated into the composition. Louvre. Item no. 45.

83 Tauroctony relief from the Wallbrook Mithraeum, London. The scene is surrounded by a ring zodiac. London Museum. Item no. 46.

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87 Torso of a snake-entwined god from Arles, France. Musée Lapidaire, Arles. Item no. 65.

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95 Mosaic from Sentium. Aion with Mother Earth, surrounded by the infant seasons. Munich Glyptotech. Item no. 79.

96 Mosaic from Philippopolis. The Roman emperor Philip the Arab, as Aion, is surrounded by mythological figures concerned with birth, death and fecundity, each identified by a Greek inscription. Item no. 87.

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102 Mosaic from Bir Chana. The zodiac and celestial deities, with Saturn at the centre, are arranged in a series of triangles and hexagons that probably allude to the astrological Aspects. Bardo Museum, Tunis. Item no. 90.

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127 Coin of Amastris, Paphlagonia. Obv. head of Julia Maesa. Rev. Zeus and Hera standing in the zodiac circle. Item no. 203.

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129 Zodiac coin from Alexandria, A.D. 144/5, showing on the obverse the bust of Antoninus Pius, and on the reverse the head of Sarapis encircled by the zodiac, and planetary deities. Item no. 186.

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143 Qusayr ʿAmra. Section of the painted star-map in the dome, showing Sagittarius, with part of Serpentarius and Serpens. Item no. 180.

.FIGURES 1-7

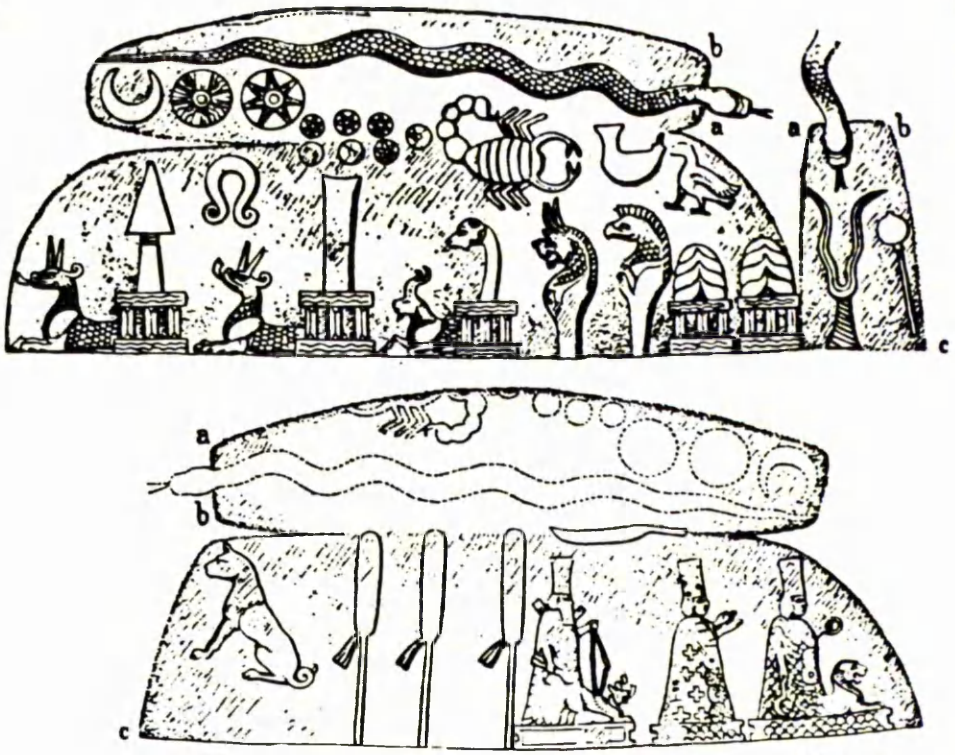

Fig. 1

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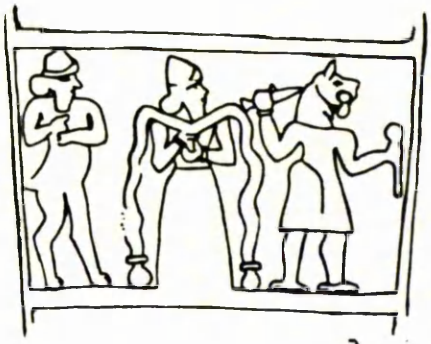

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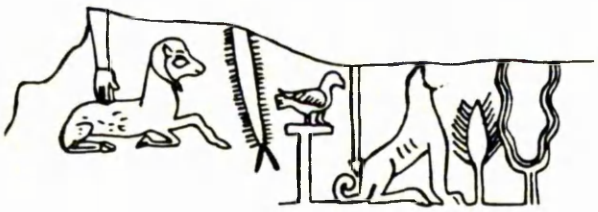

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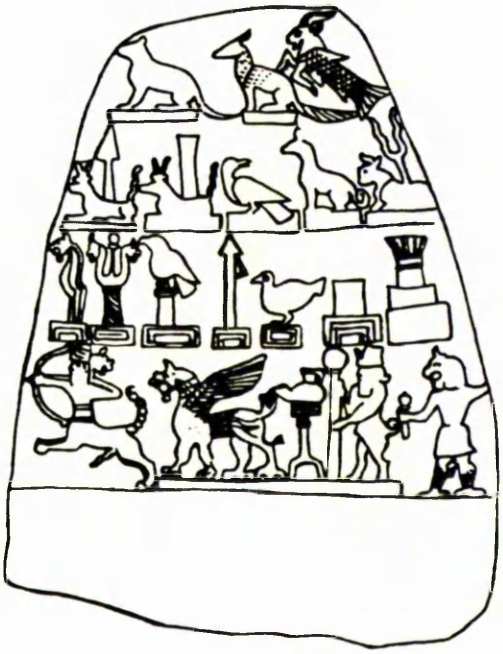

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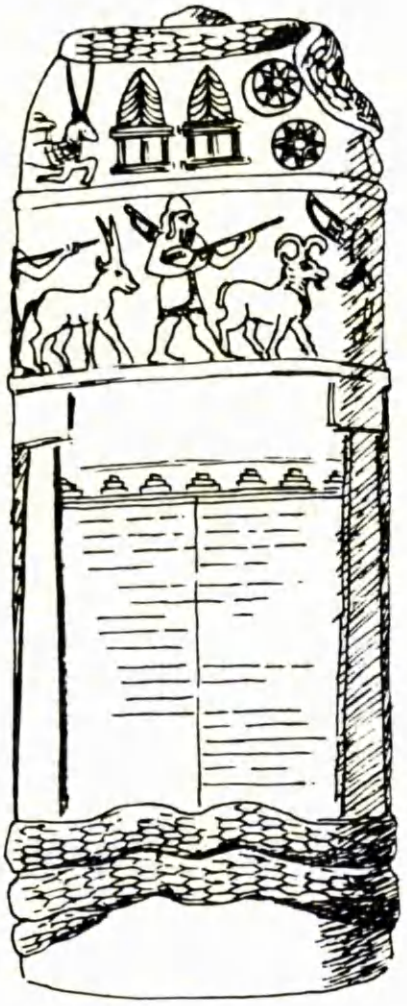
FIGURES 8-10



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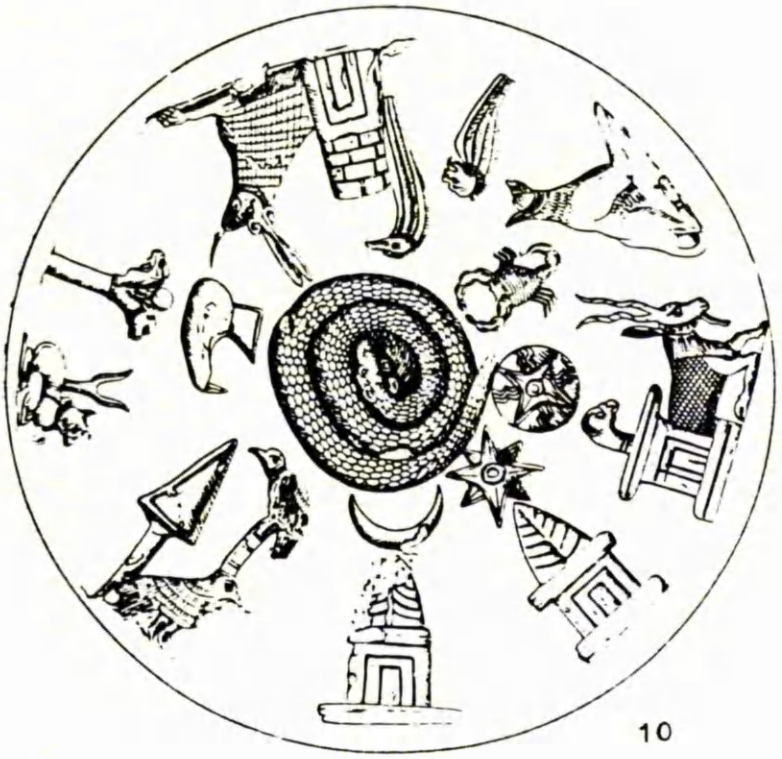

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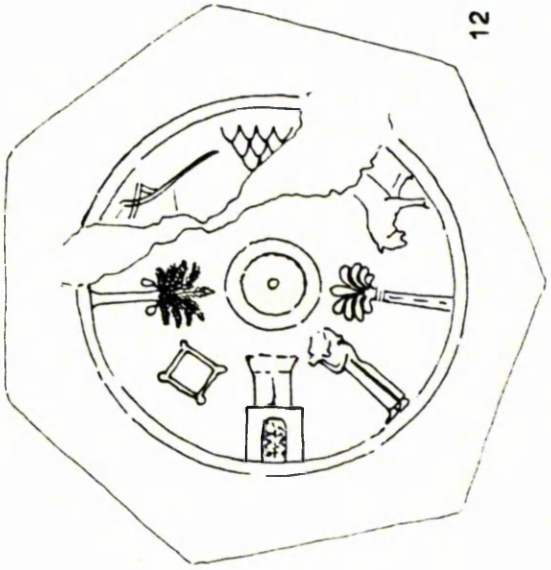
FIGURES 11-13



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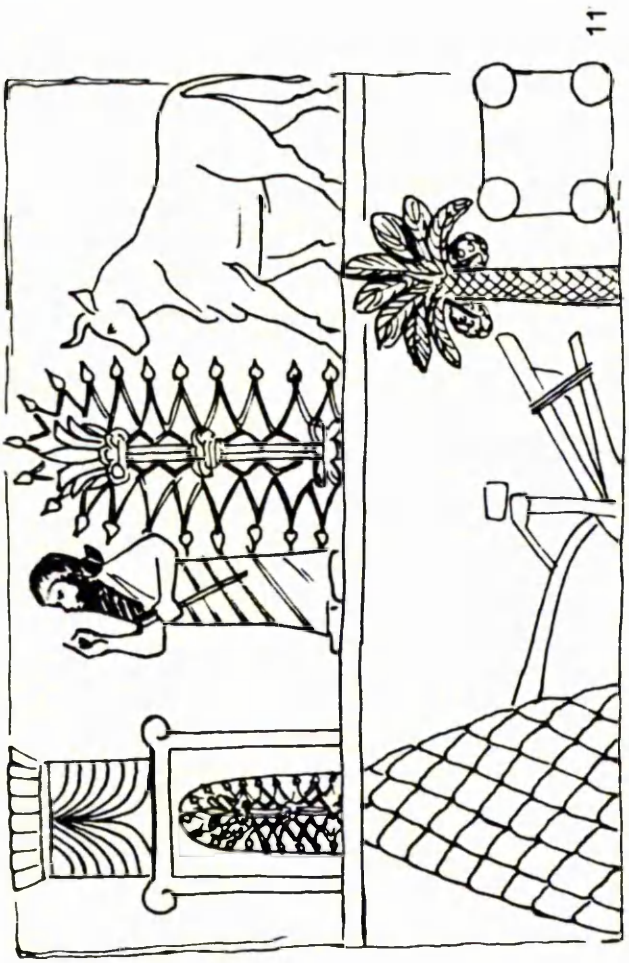

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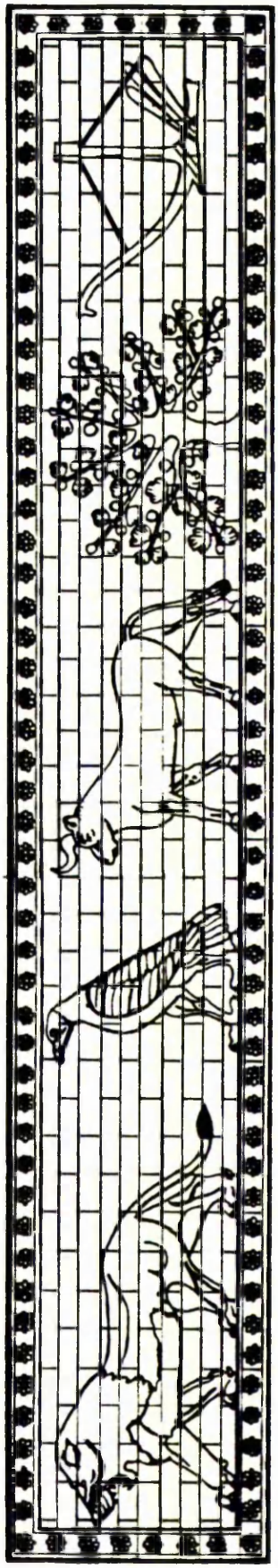

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FIGURES 14-16

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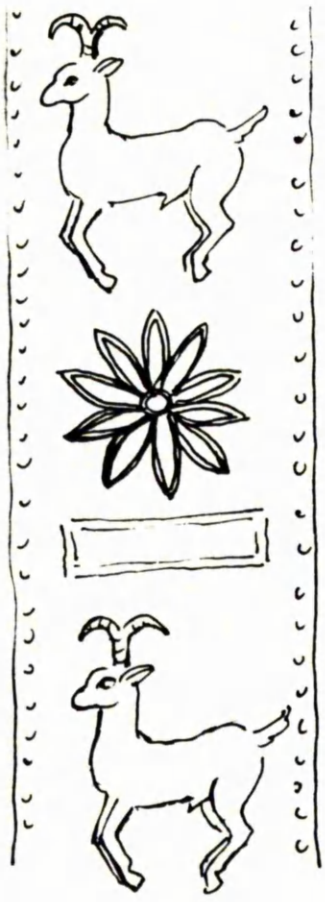

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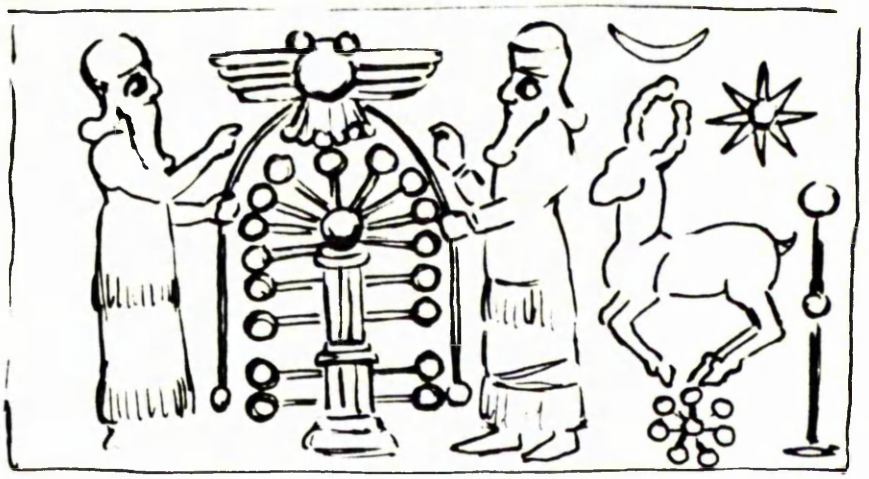

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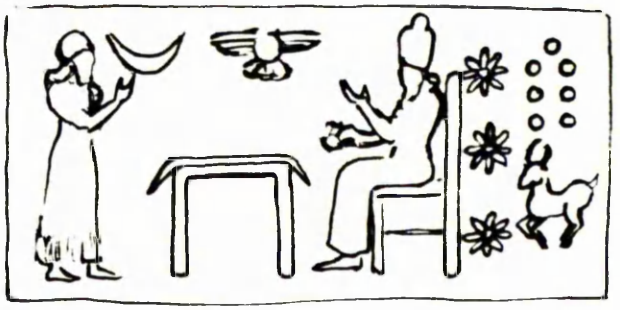

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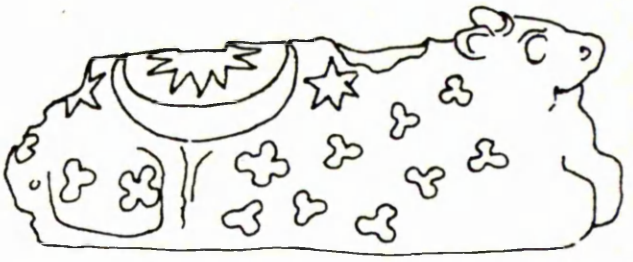

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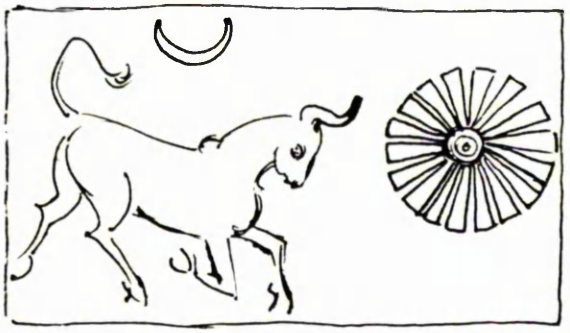

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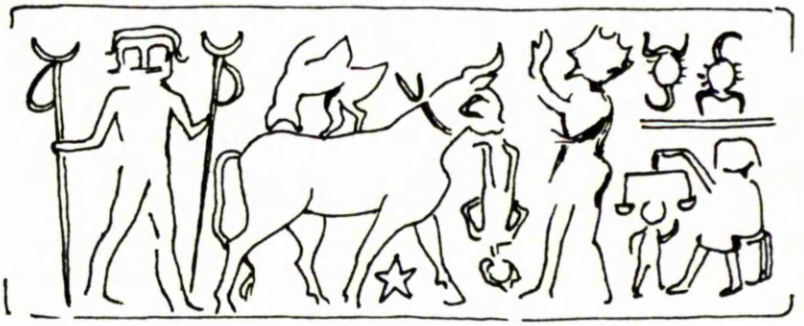

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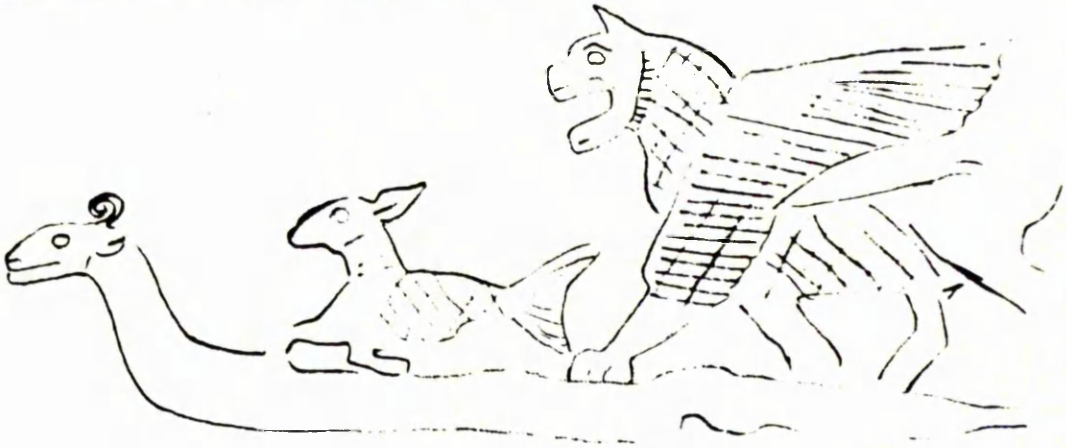

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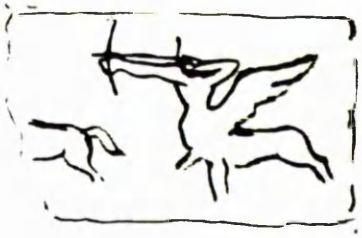

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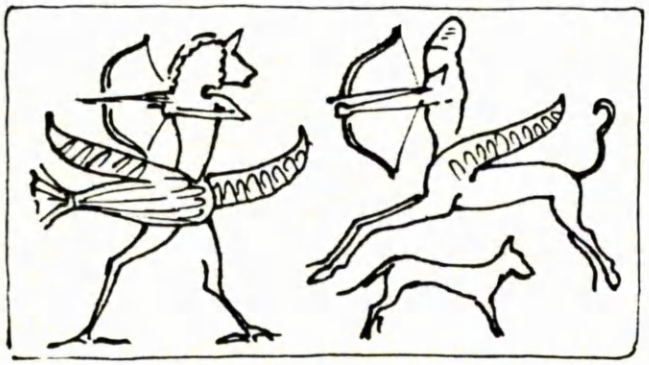

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FIGURES 30-36

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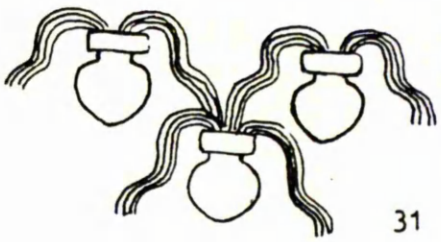

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FIGURES 37-38

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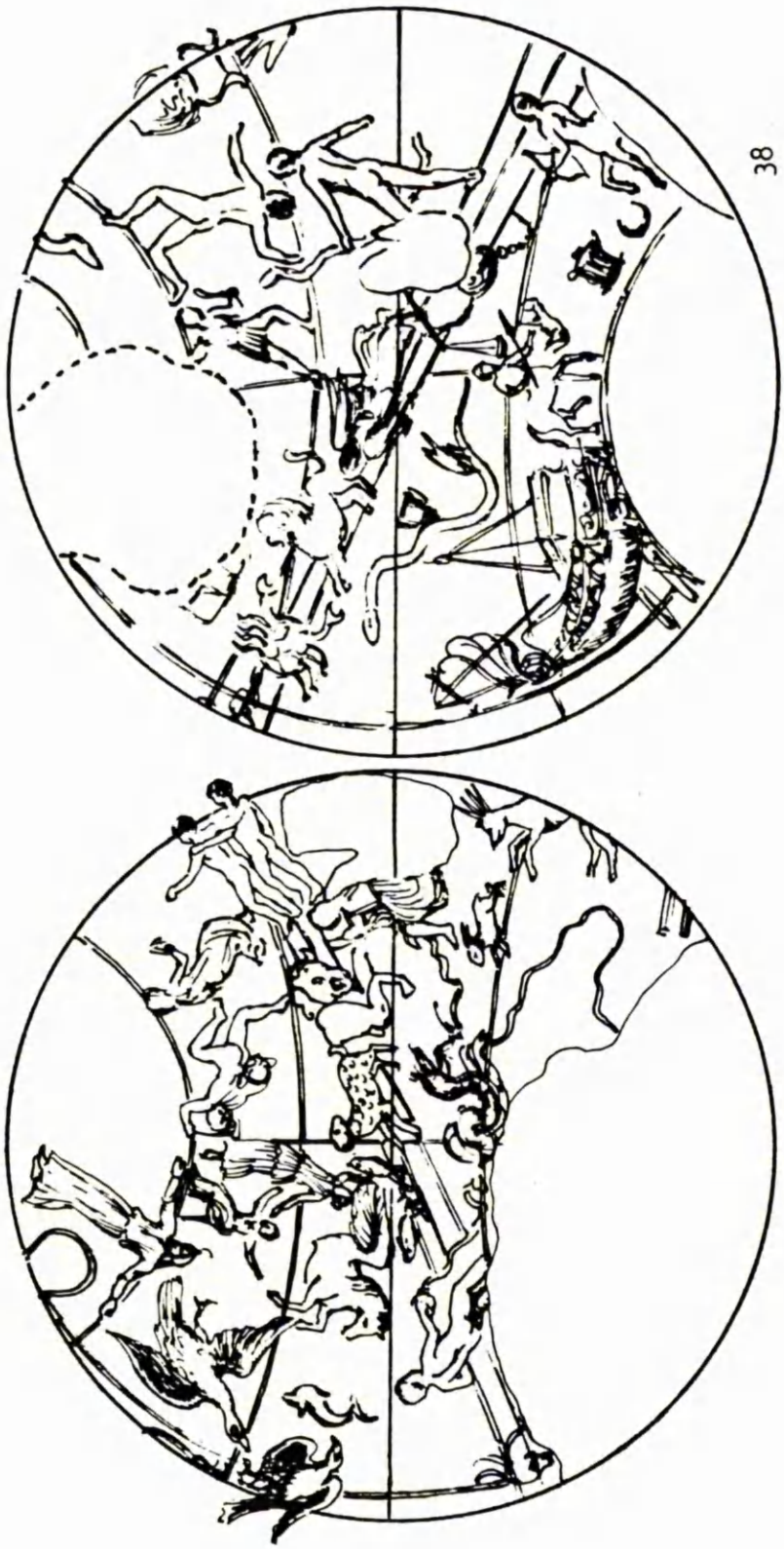

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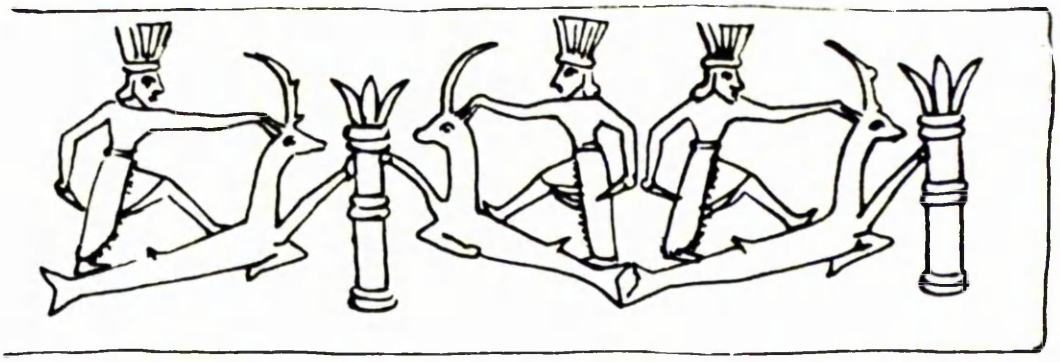

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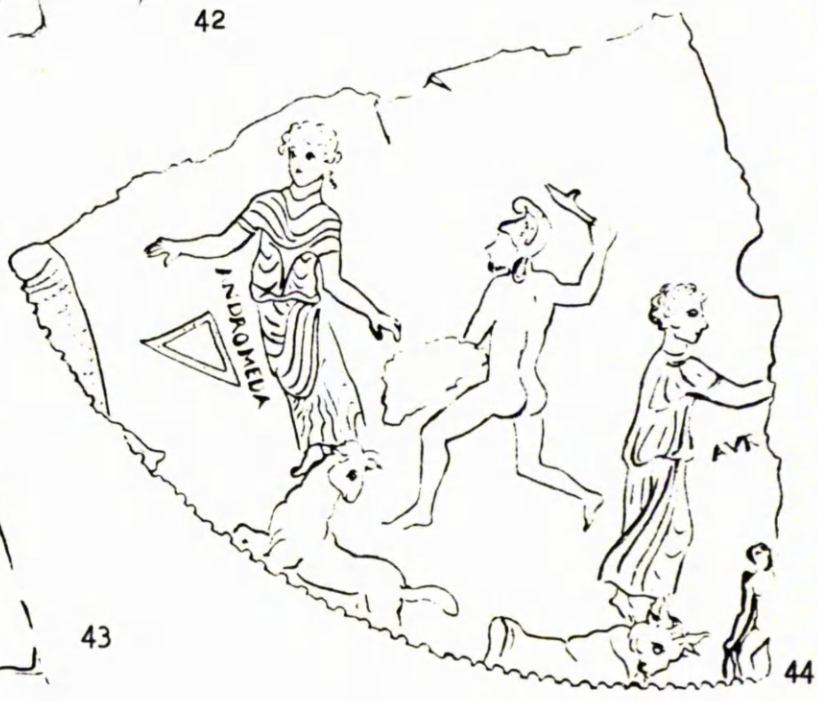

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FIGURES 45–47

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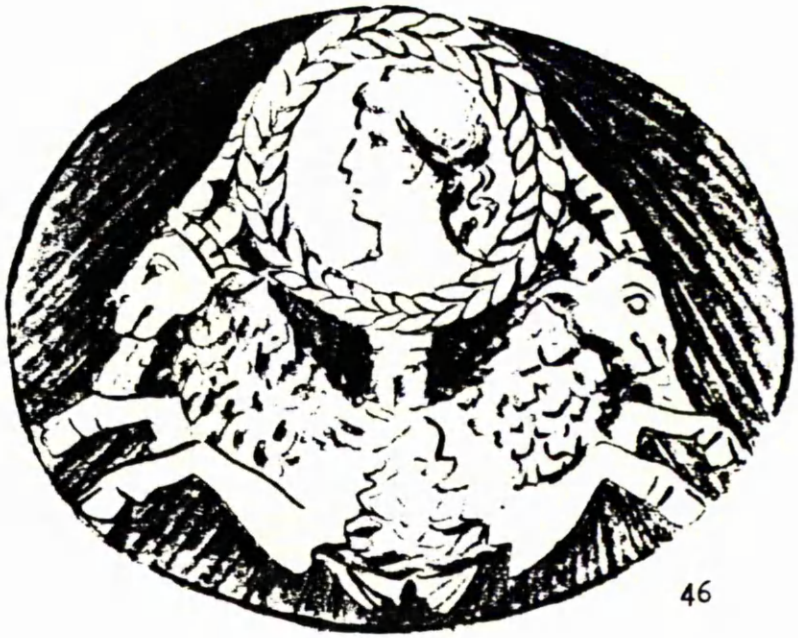

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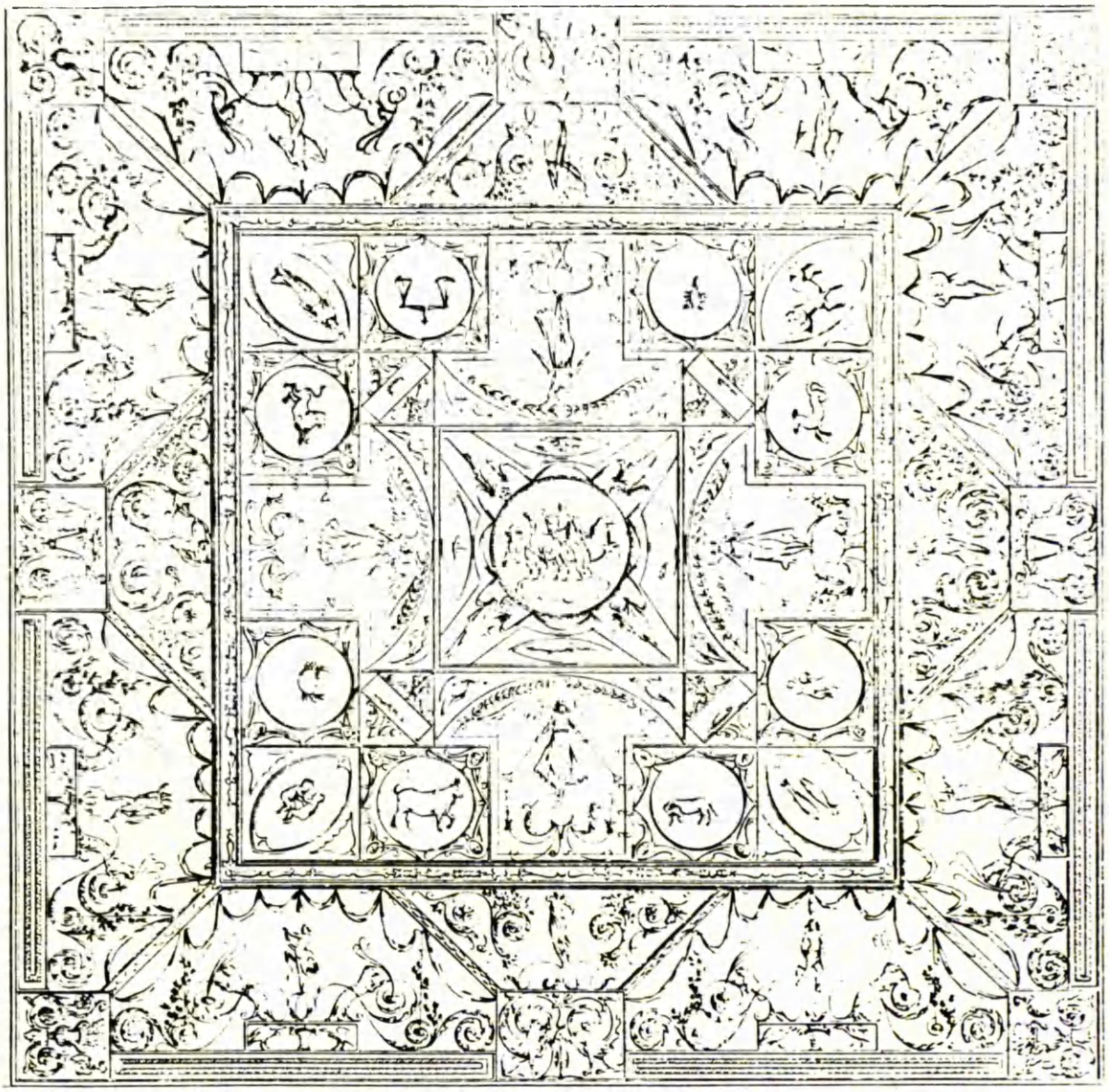

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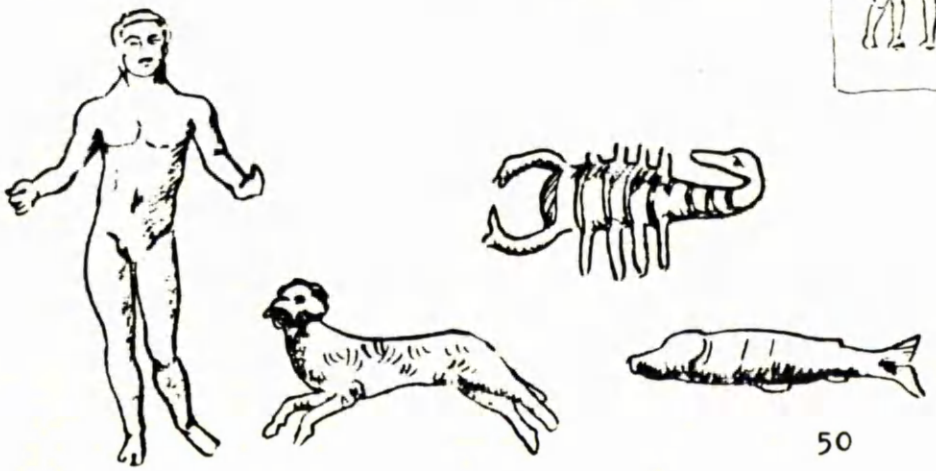

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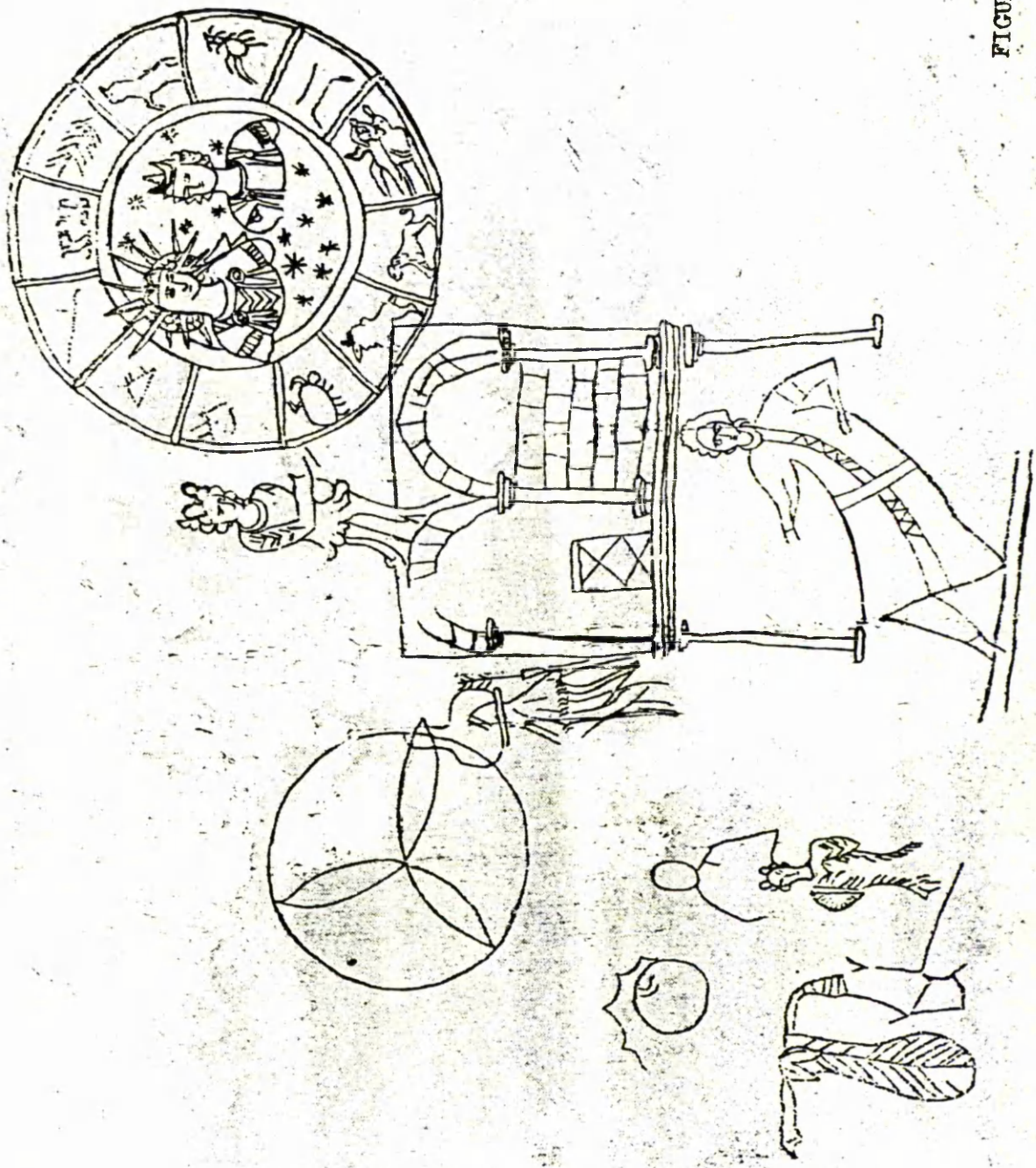
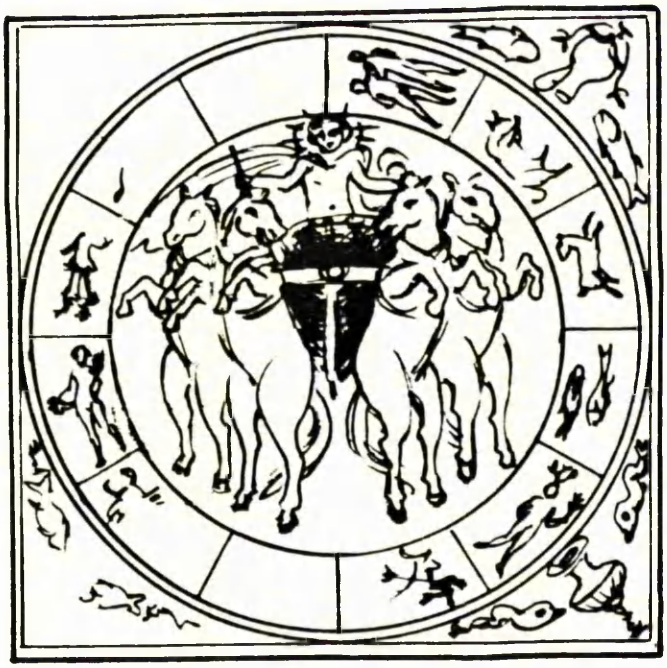


FIGURE 57



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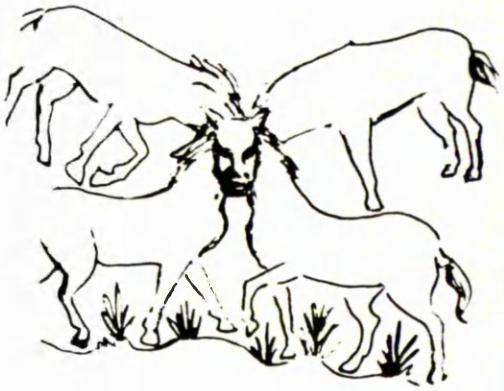

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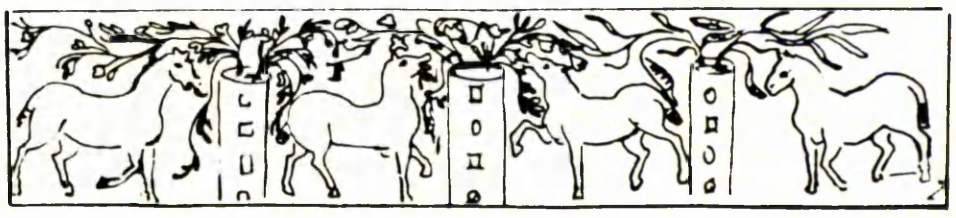

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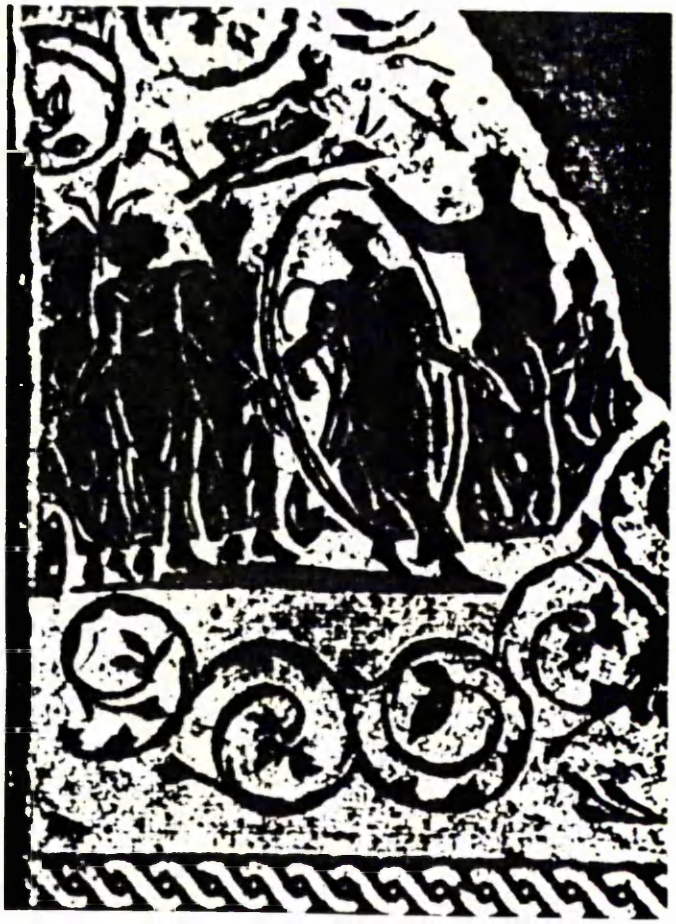

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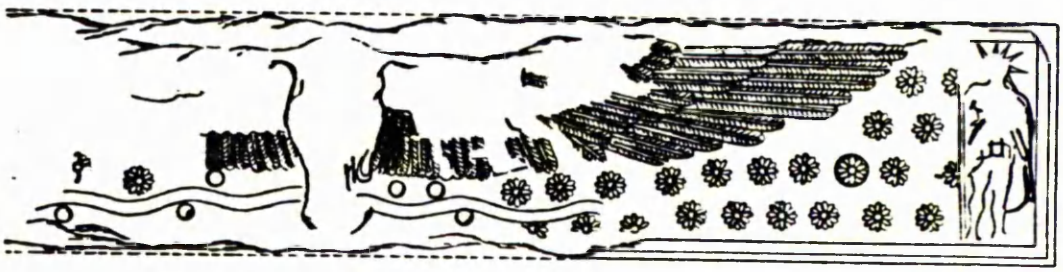
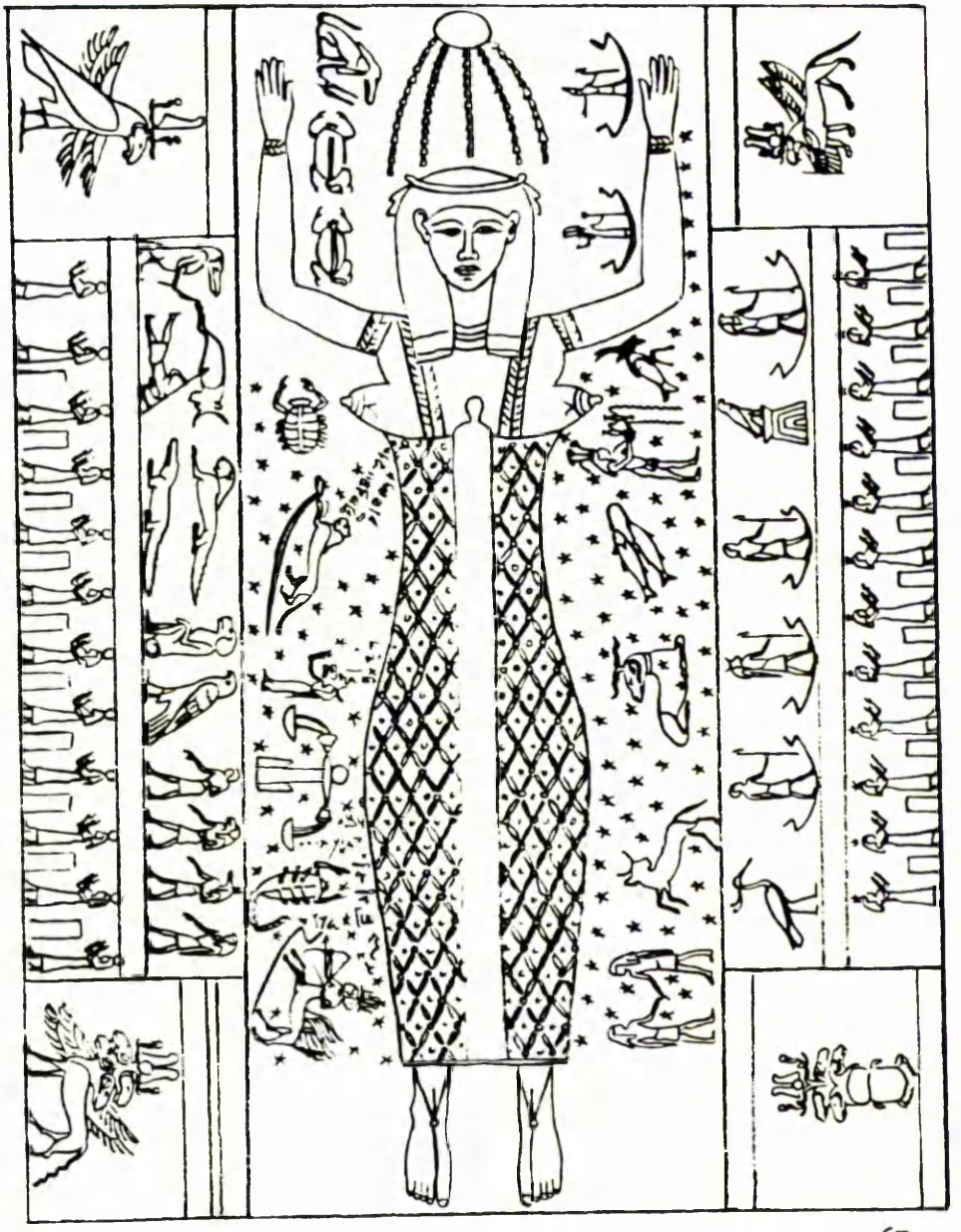
FIGURES 65-66

THE TEMPLE OF BEL

65 Sketch of the zodiac ceiling of the north thalamos.



66 Sketch of the lintel over the door into the north thalamos.



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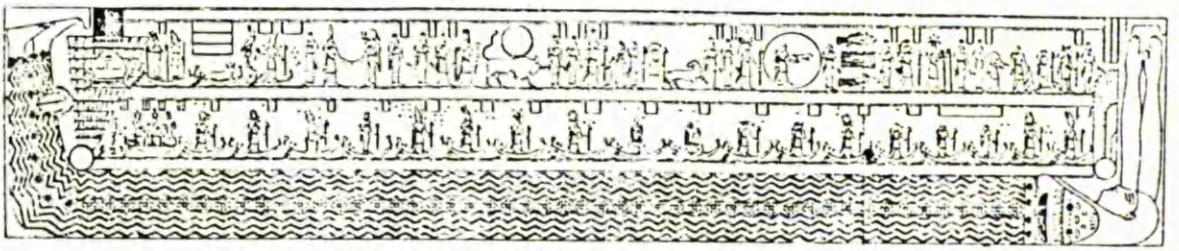

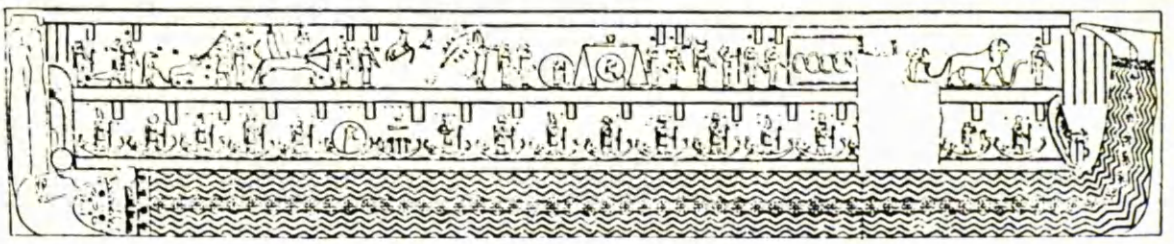

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FIGURES 69-71

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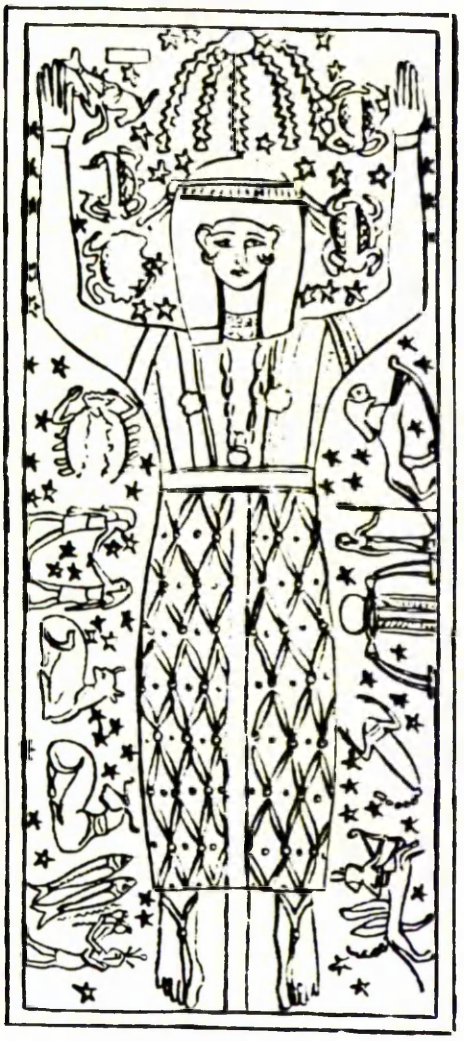

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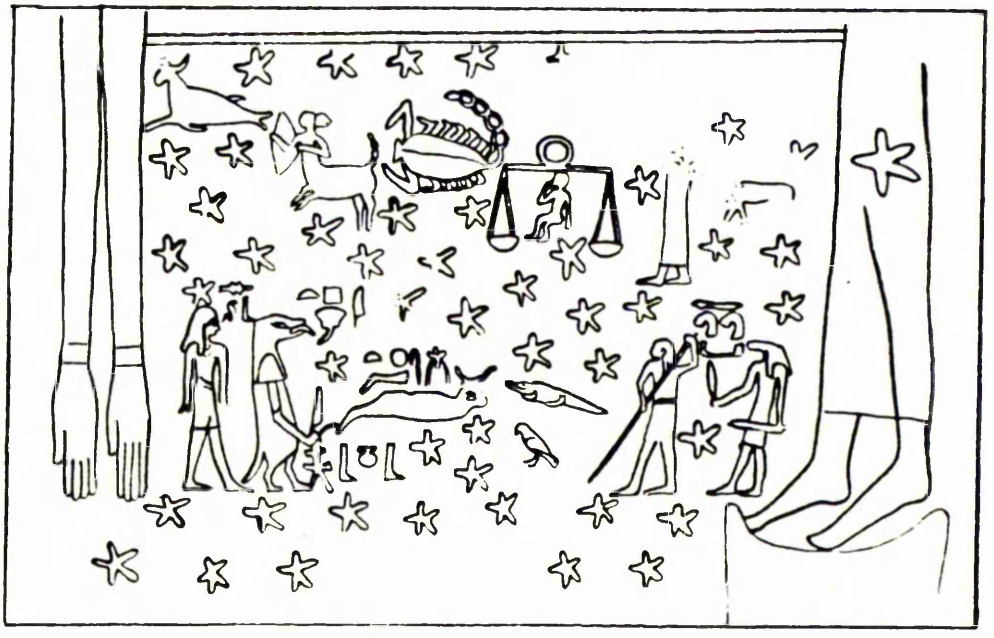

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FIGURES 72-73

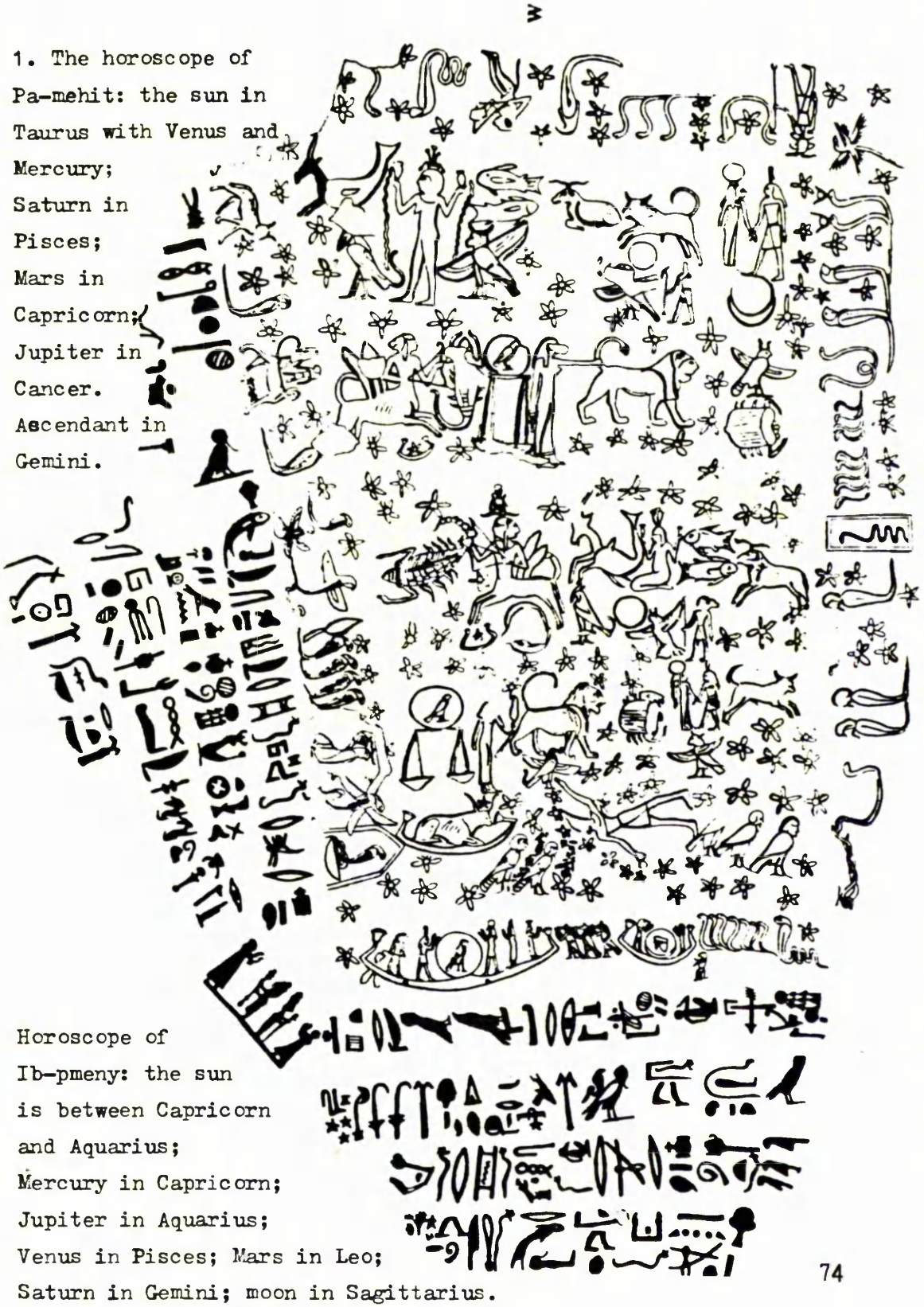
ZODIAC CEILINGS IN THE TOMBS AT AL-SALAMUN

72 Tomb 3A

73 Tomb 3B

FIGURE 74

THE HOROSCOPE TOMB, ARTHRIBIS



1. The horoscope of Pa-mehit: the sun in Taurus with Venus and Mercury; Saturn in Pisces; Mars in Capricorn; Jupiter in Cancer. Ascendant in Gemini.

Horoscope of Ib-pmeny: the sun is between Capricorn and Aquarius; Mercury in Capricorn; Jupiter in Aquarius; Venus in Pisces; Mars in Leo; Saturn in Gemini; moon in Sagittarius. Aries is on the Ascendant.

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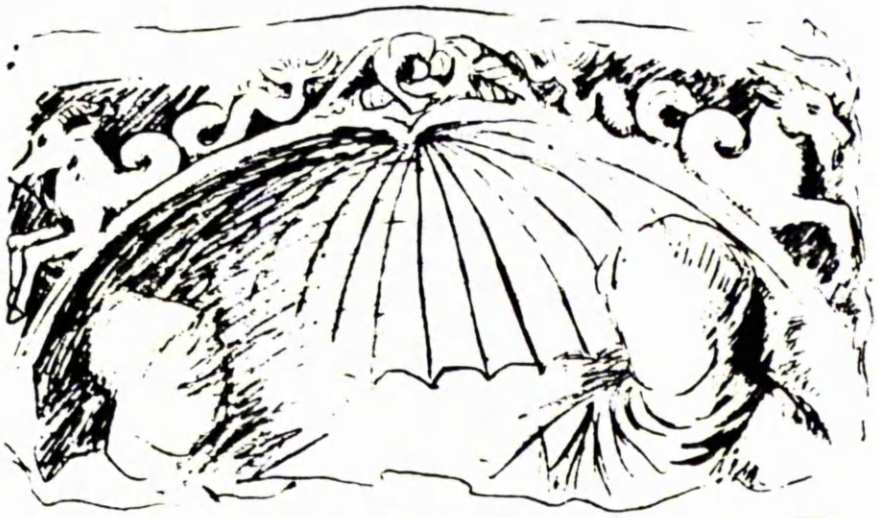
FIGURES 75-77

CAPRICORN RELIEFS, BELIEVED TO BE FROM TOMBS.



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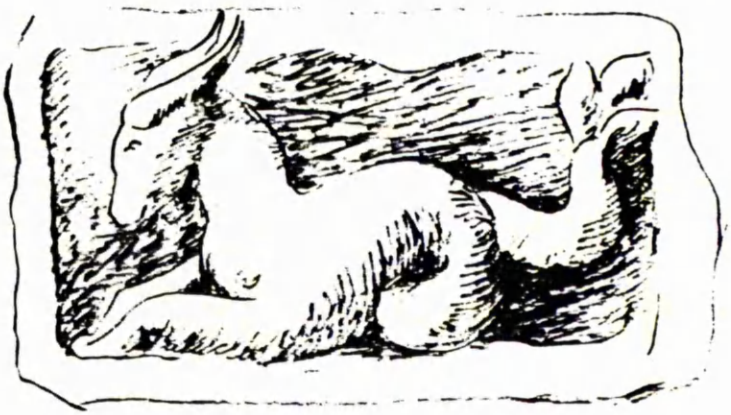

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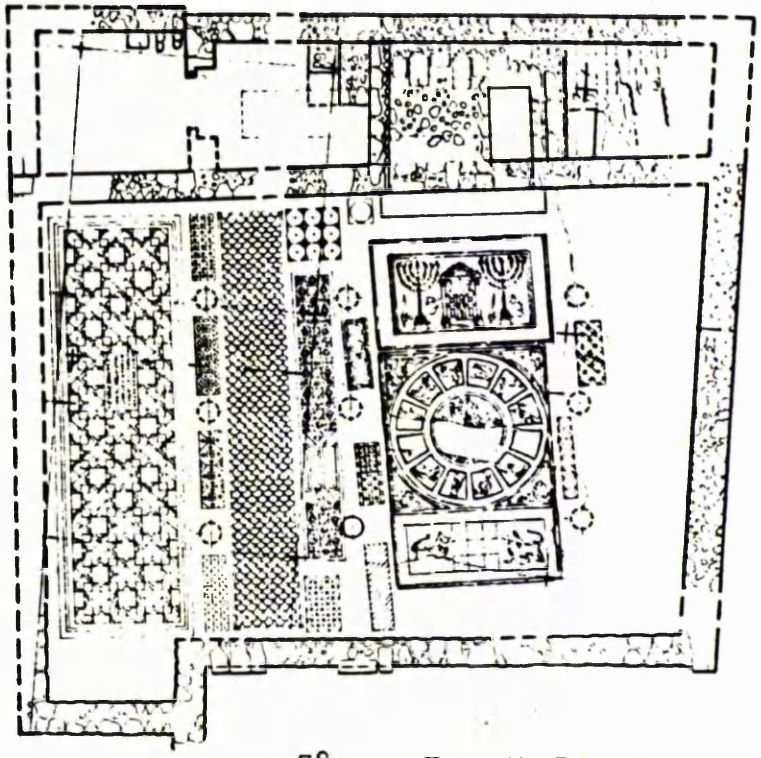
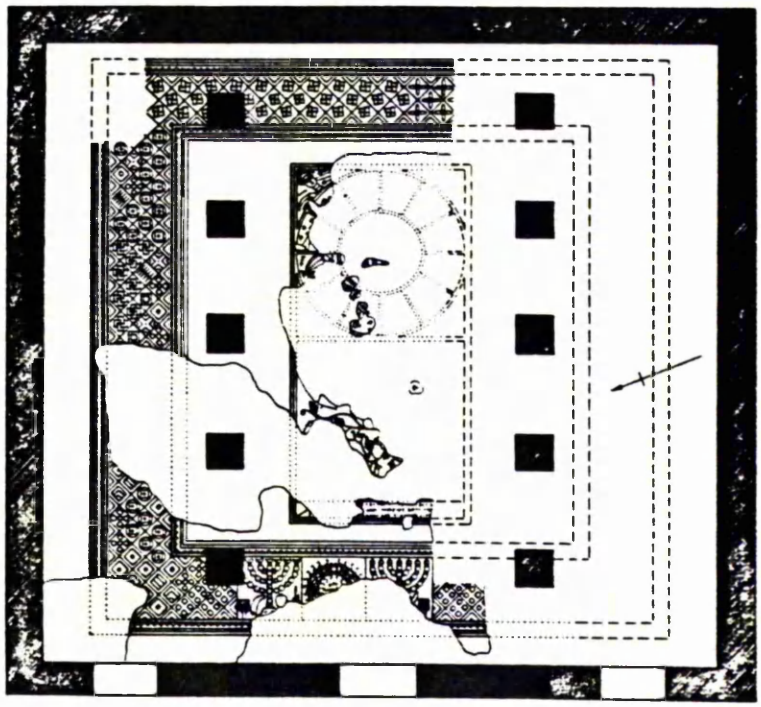
FIGURES 78-79



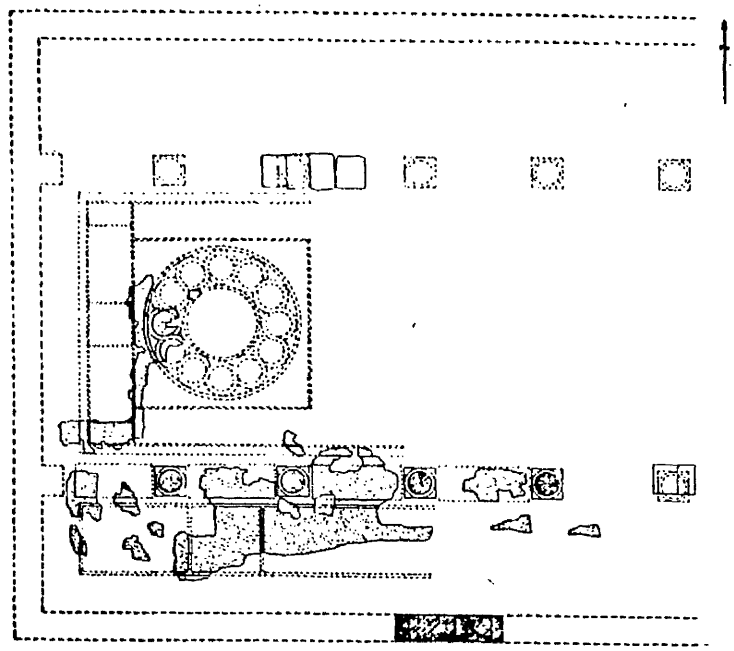
78 Hammath-Tiberias



79 Husifa

FIGURES 80-81

YAFA



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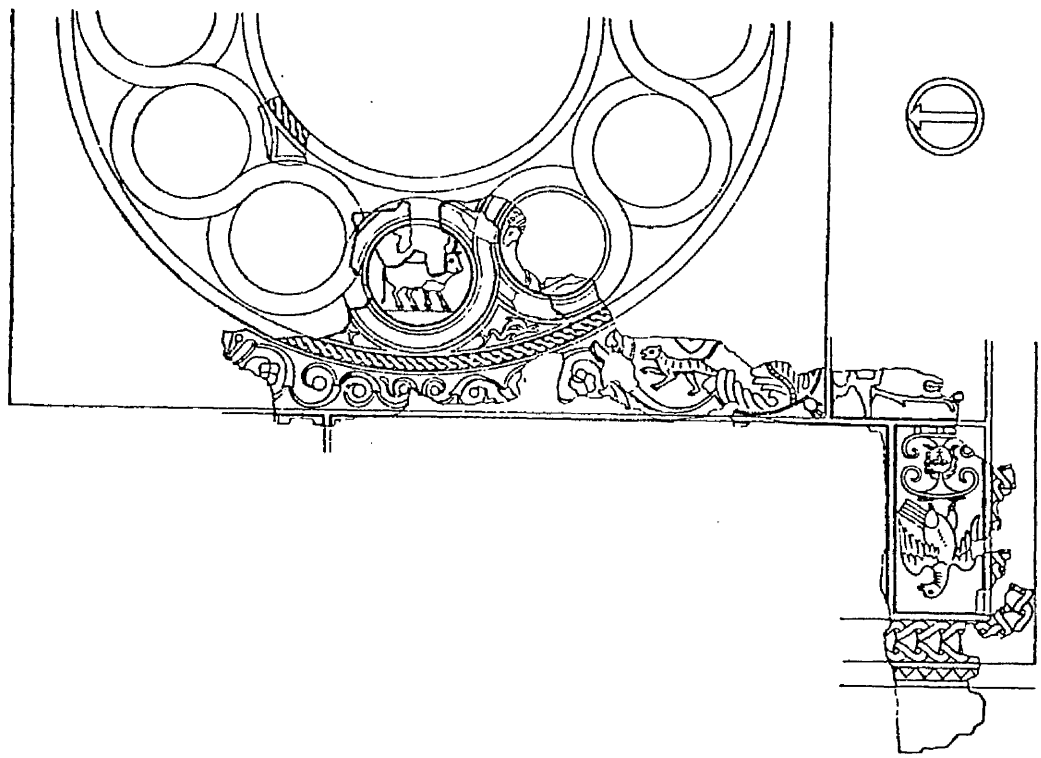

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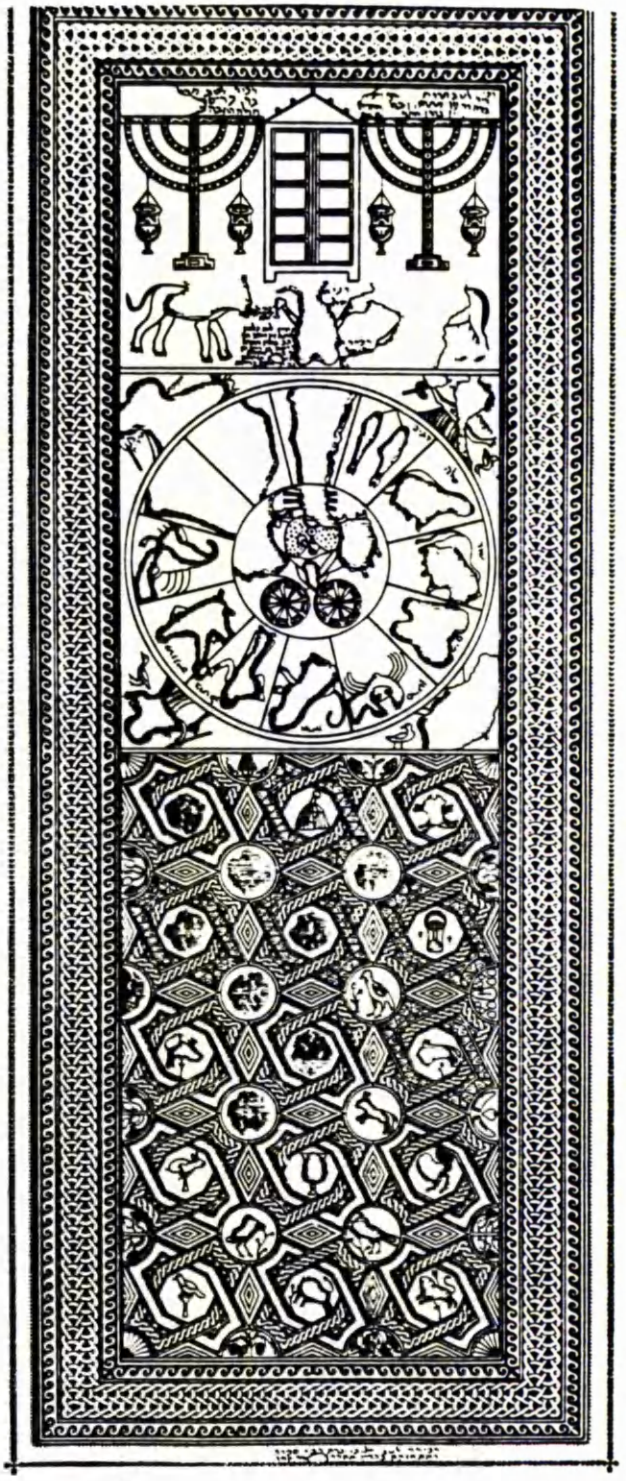
FIGURE 82

NA^{c}ARAN



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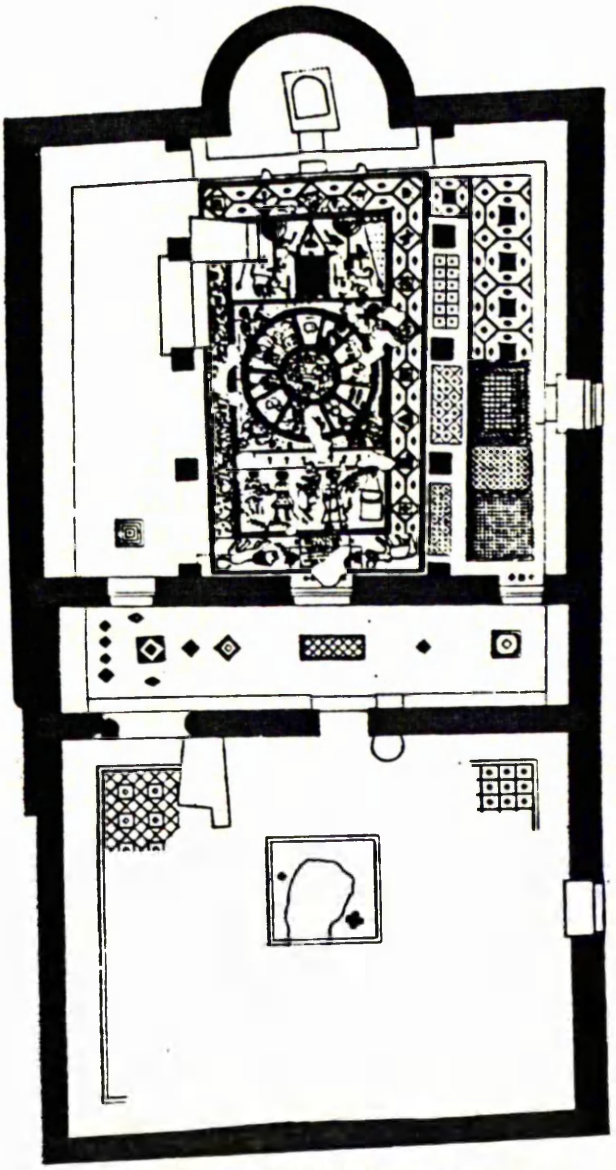
FIGURES 83–85



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FIGURES 86–88

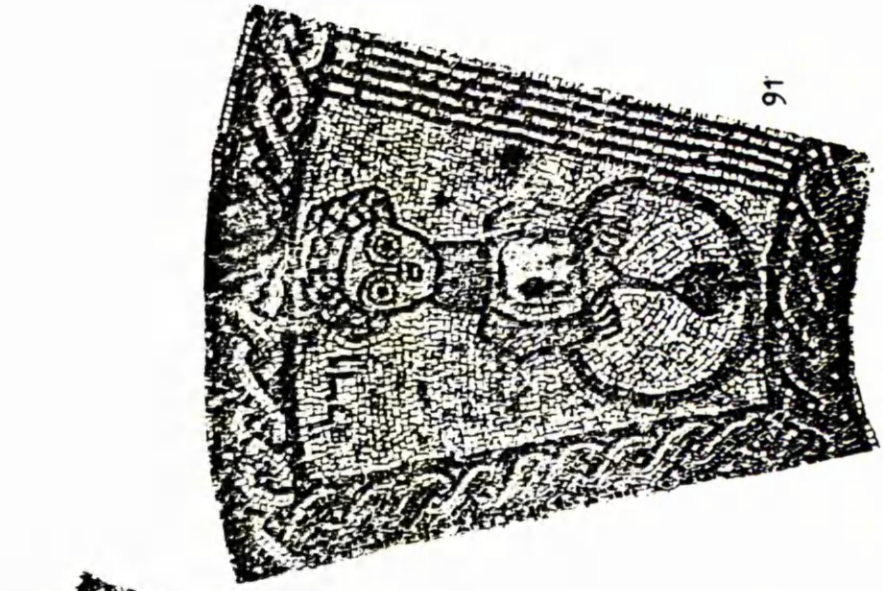
THE SEASON OF AUTUMN
(Tishri)

86
Beth Alpha

87
Husifa

88
Na^{c}aran

FIGURES 89-91



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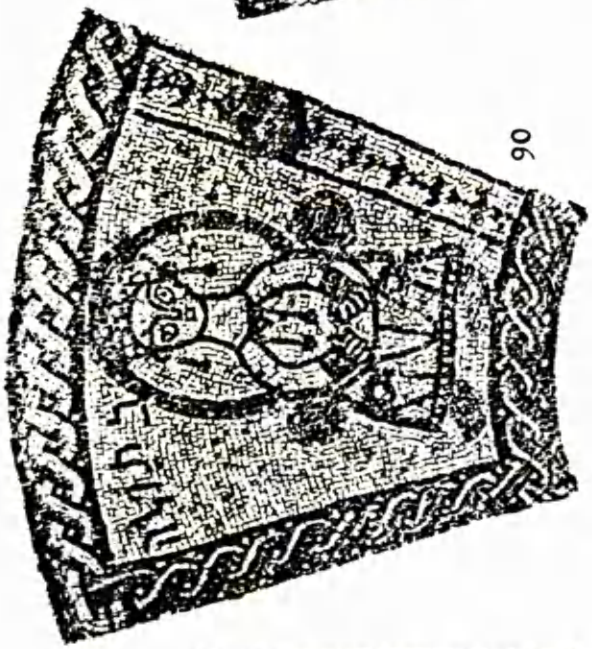

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FIGURES 92-93

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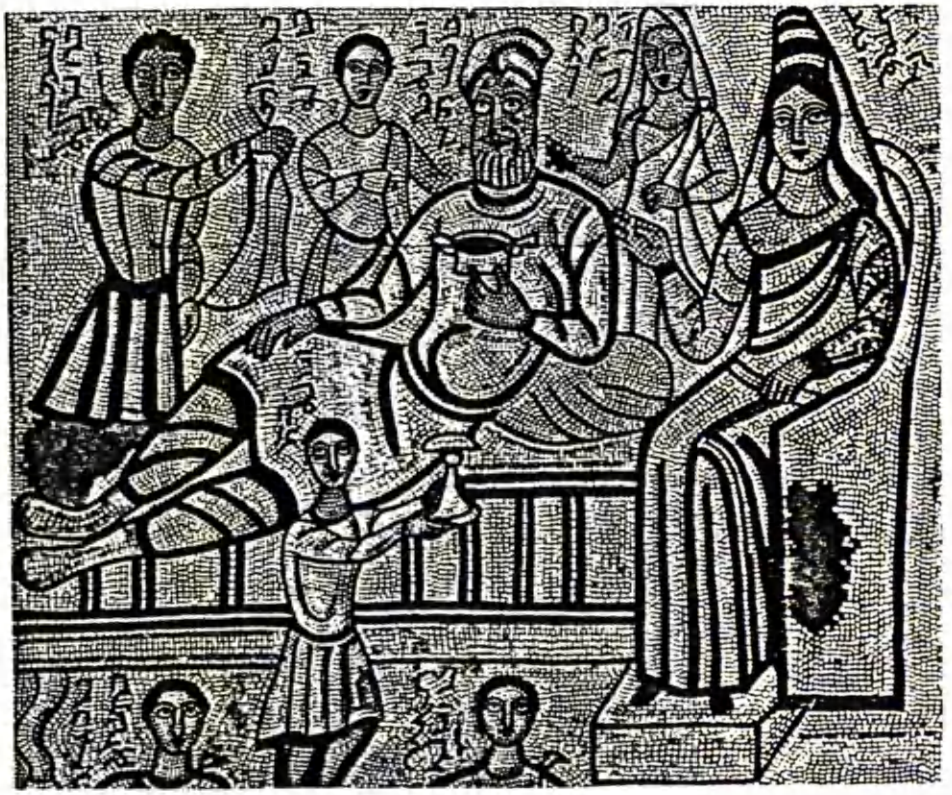

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FIGURES 94-95

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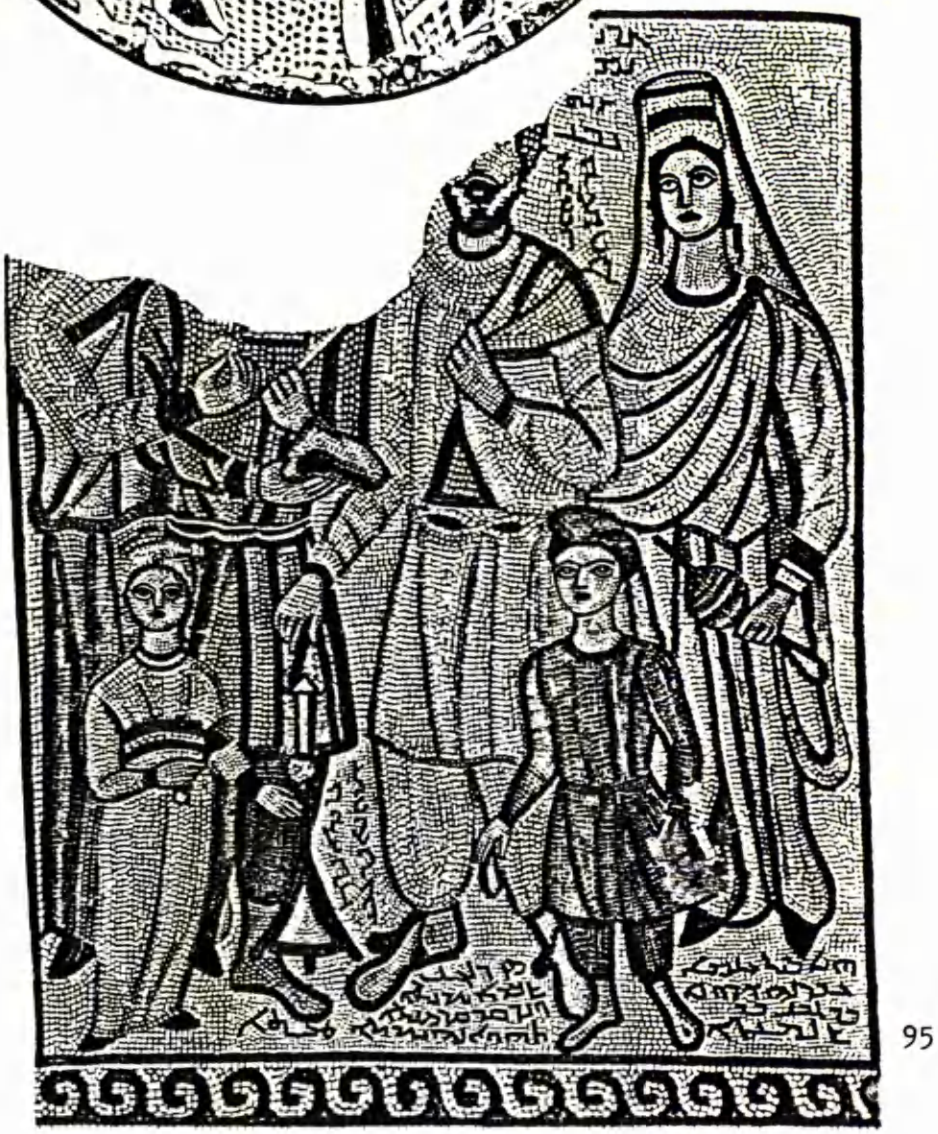

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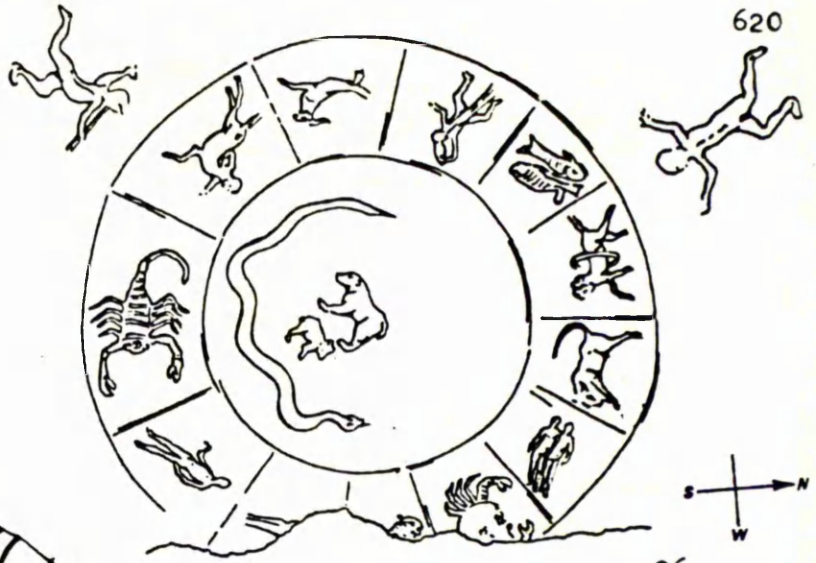
FIGURES 96–99



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FIGURES 100–101

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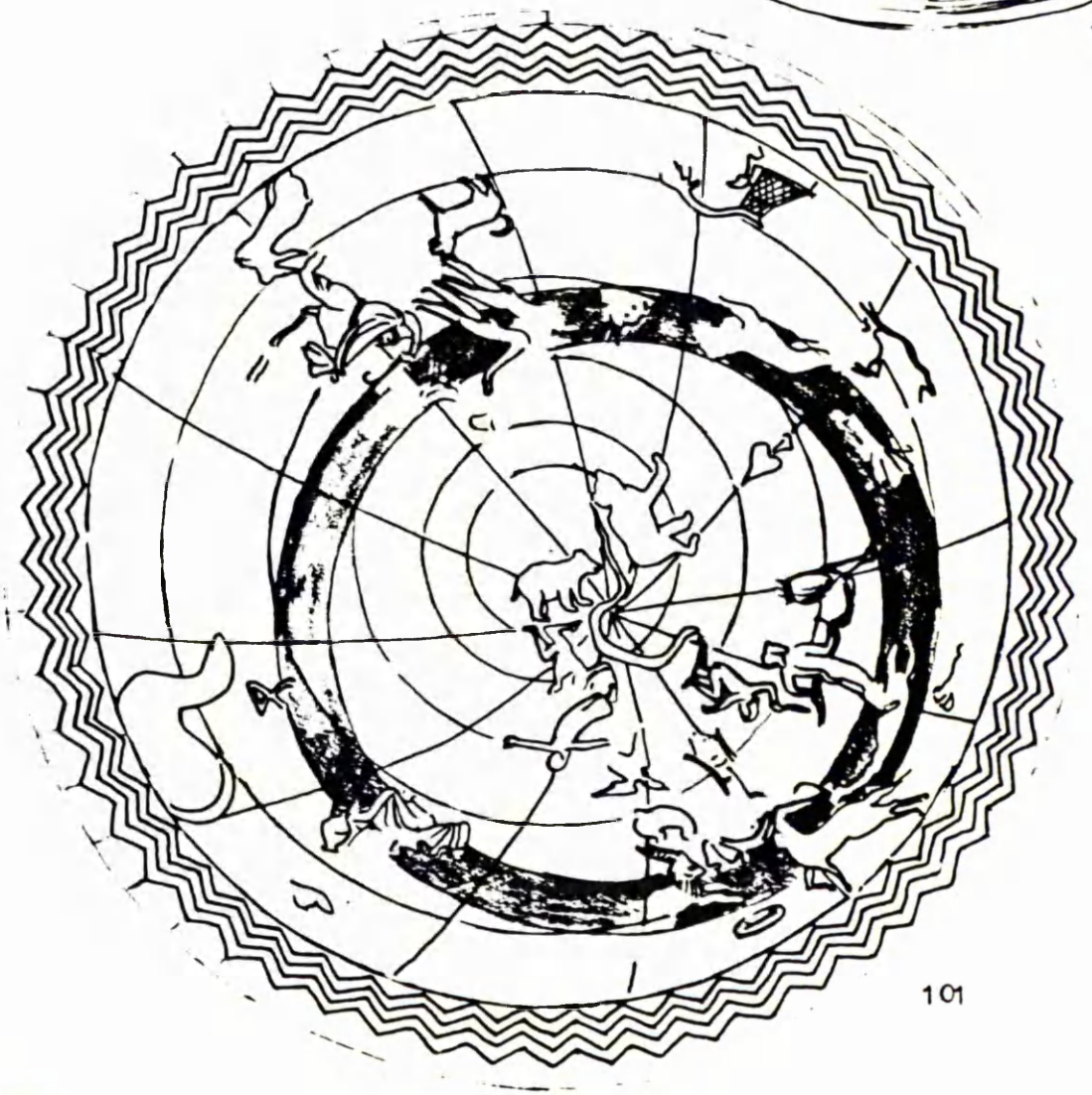

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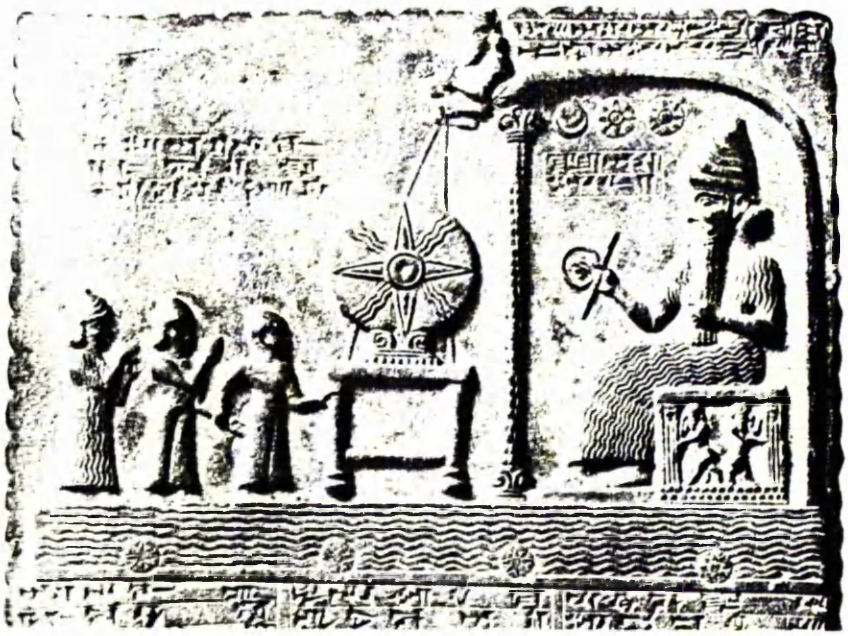

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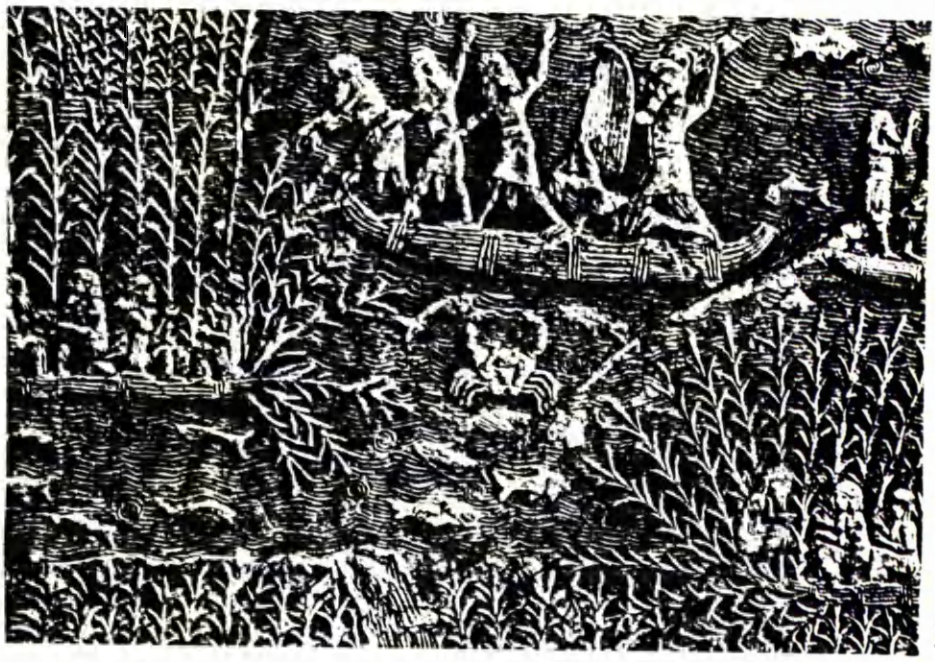

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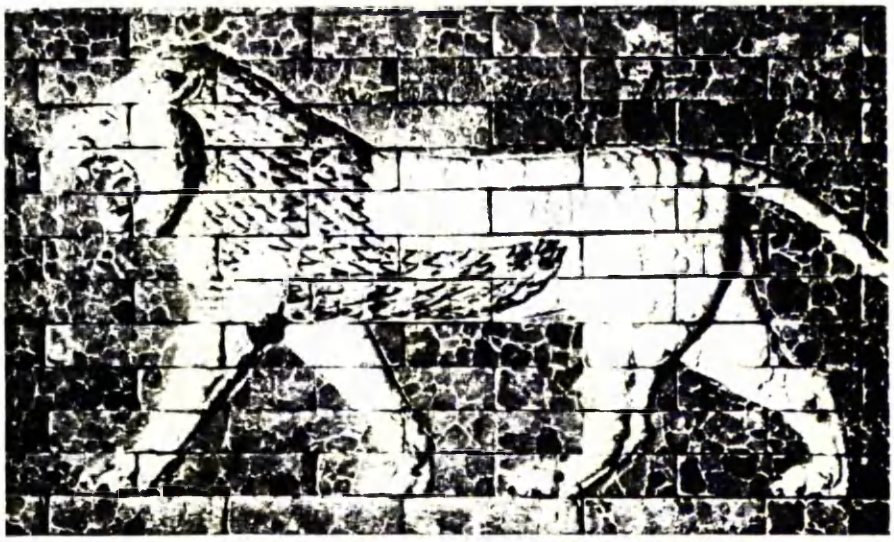

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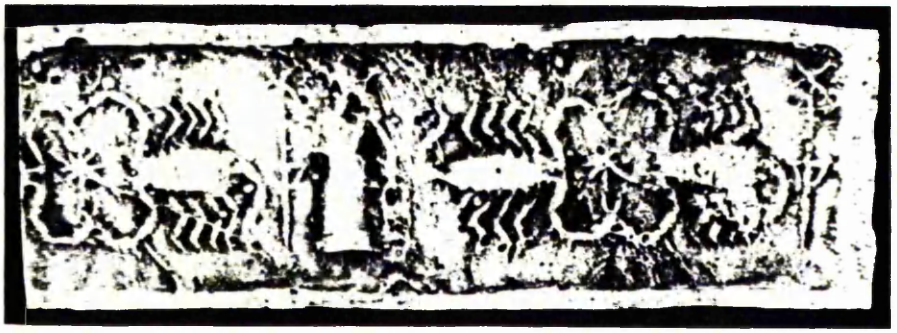

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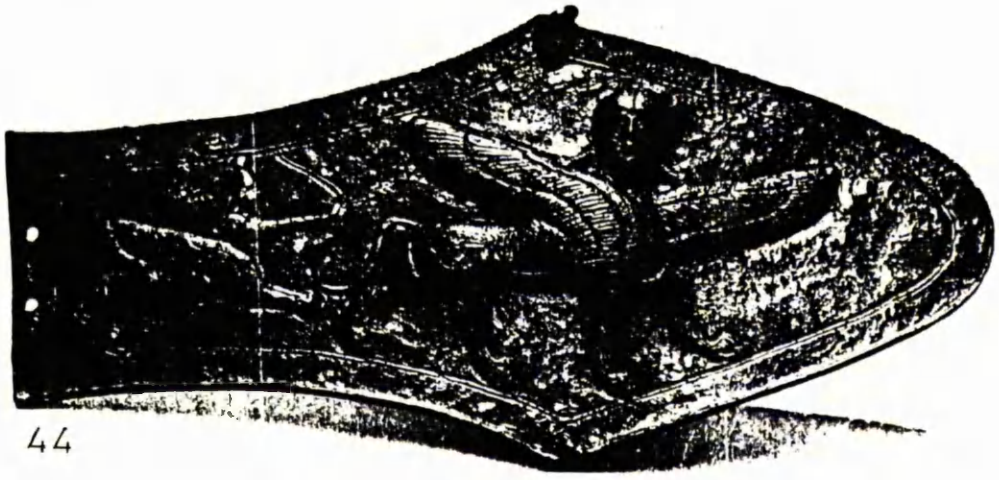

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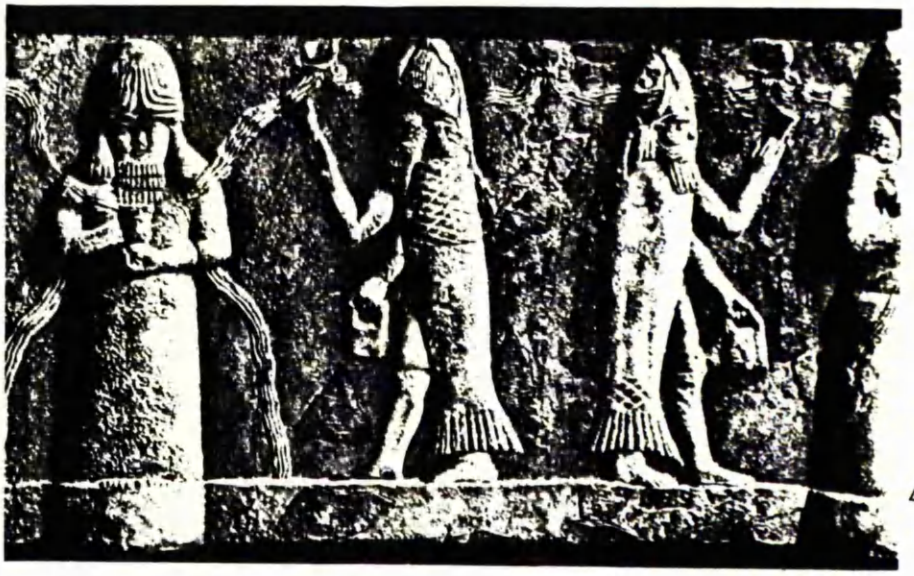

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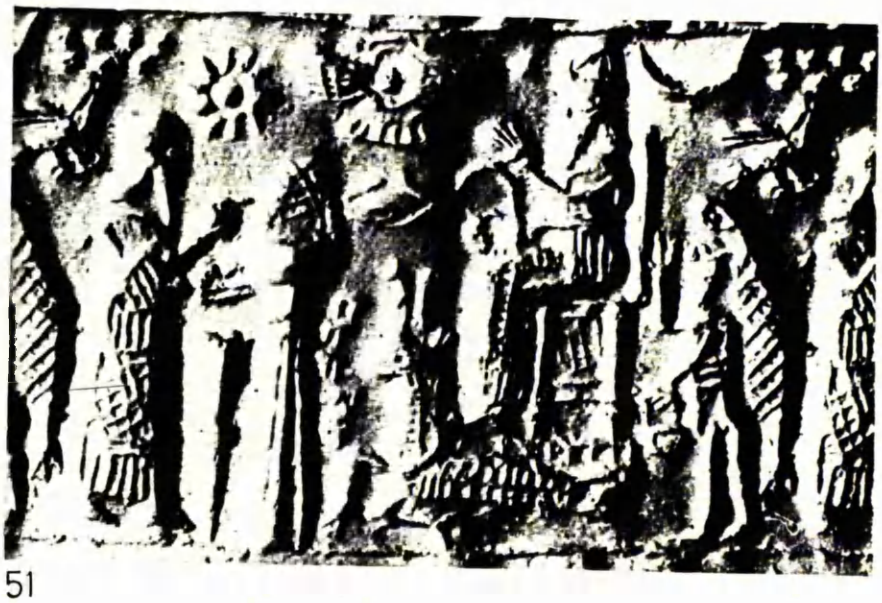

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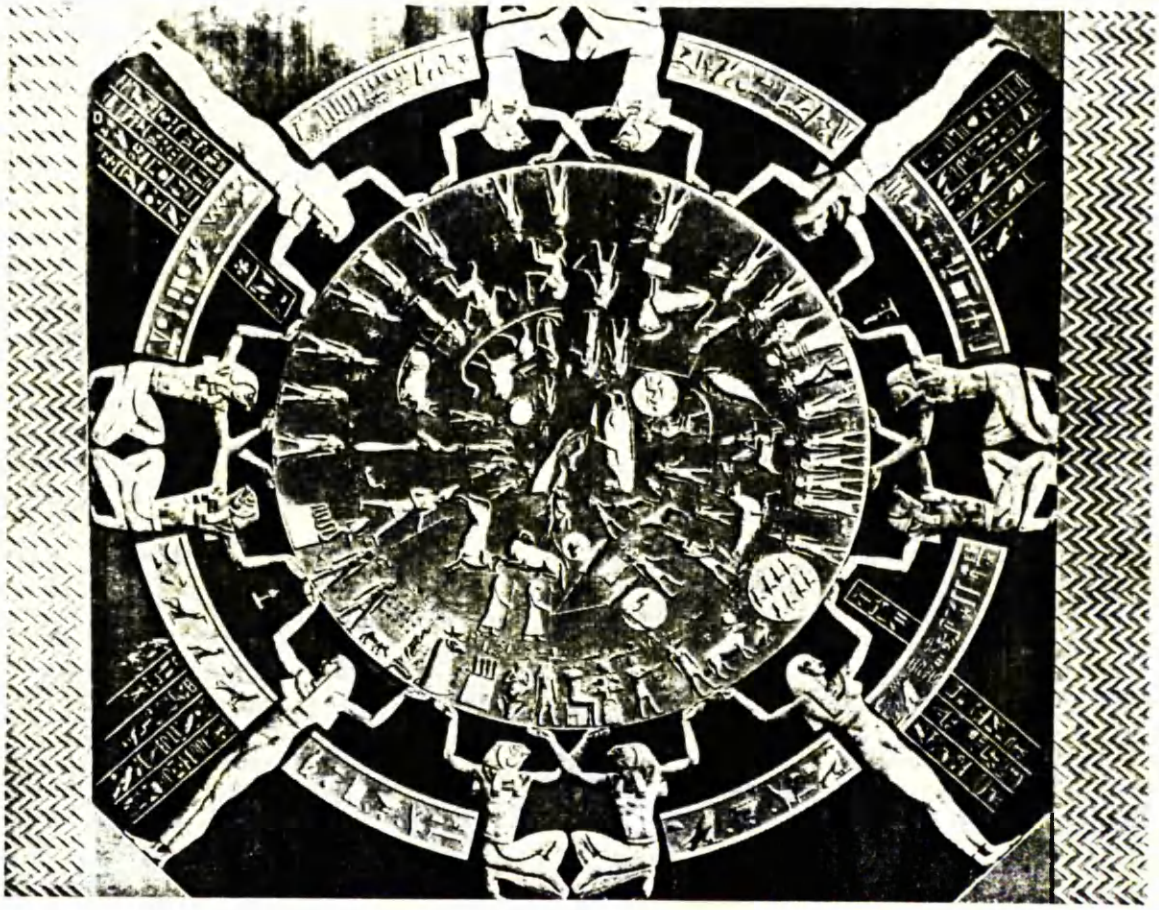

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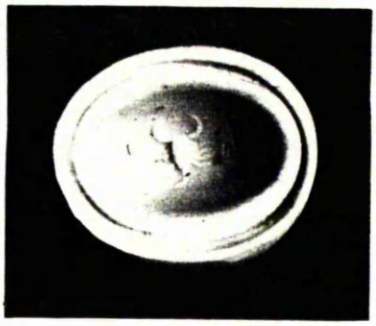

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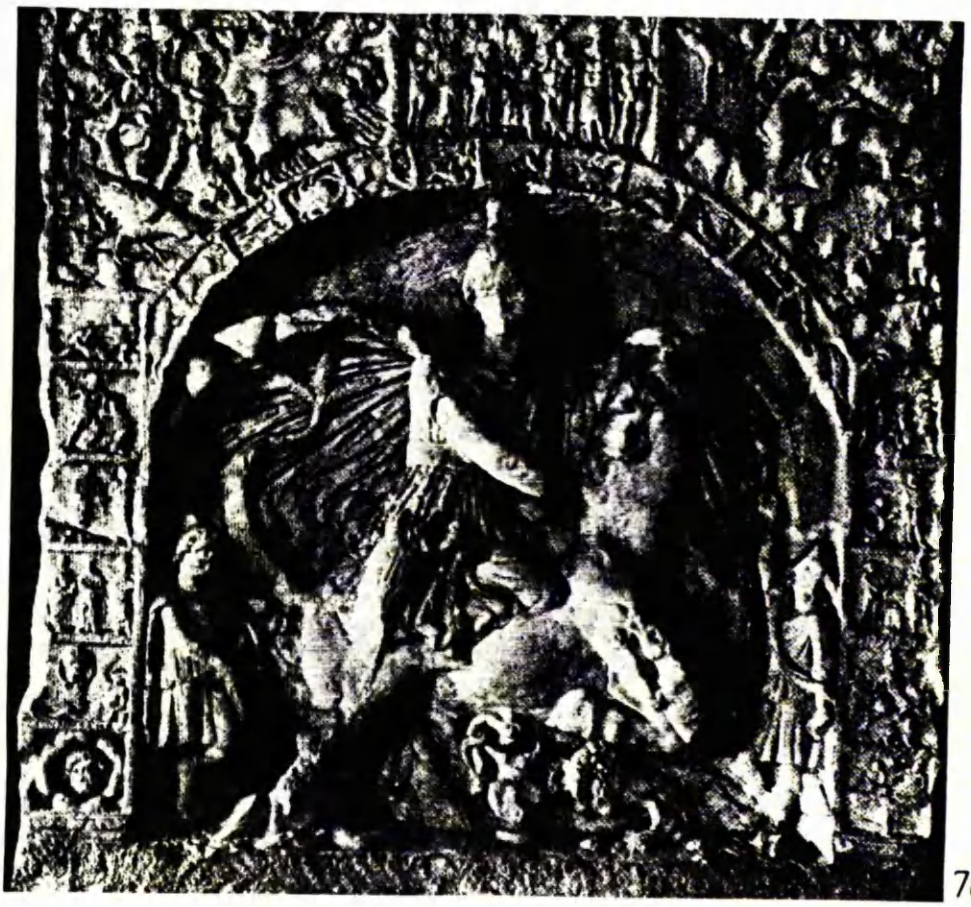

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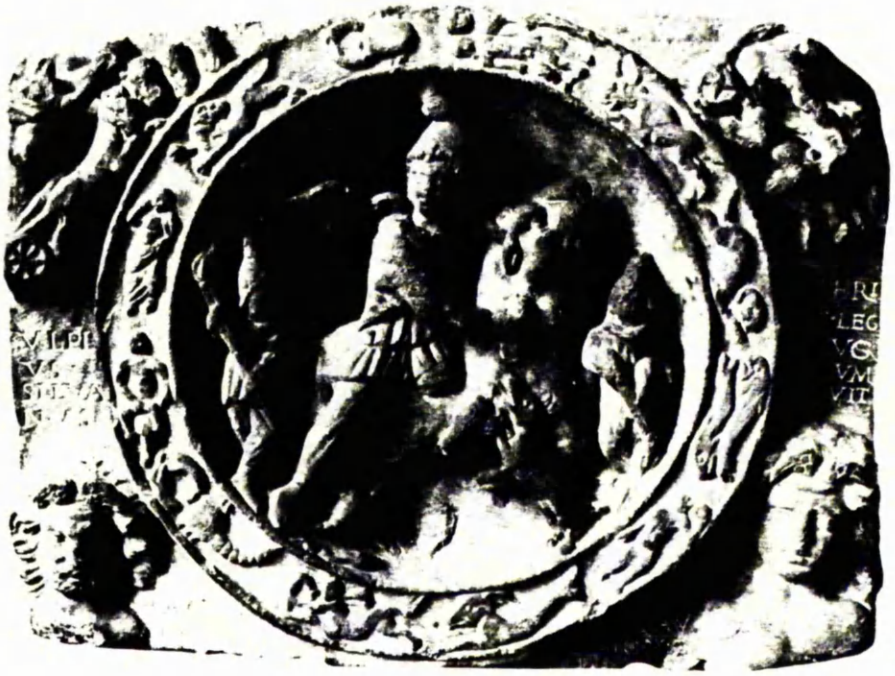

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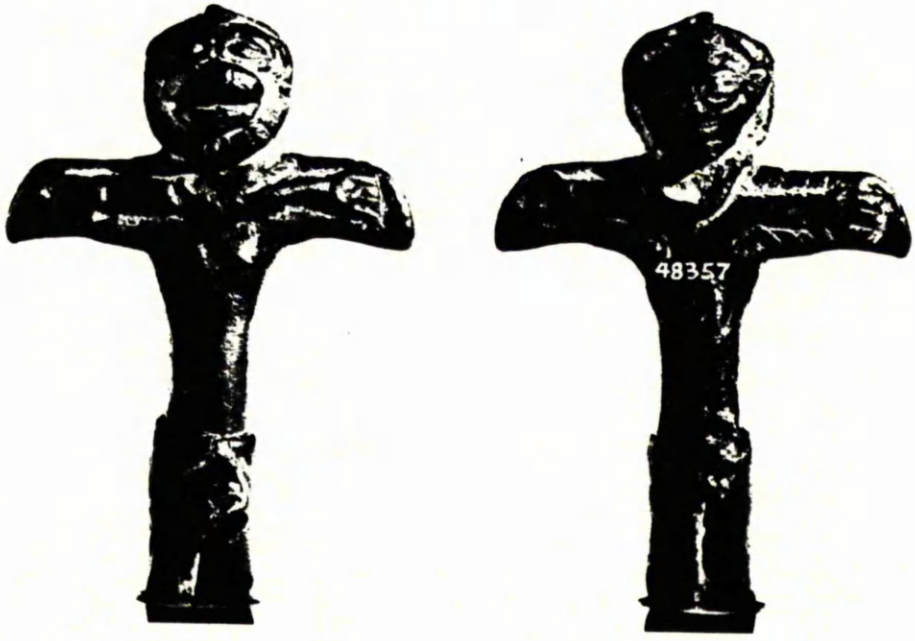

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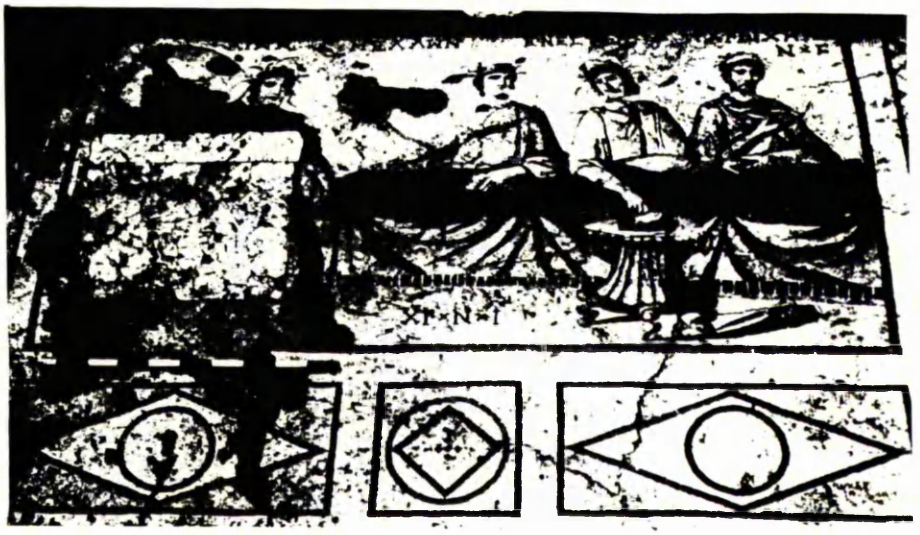

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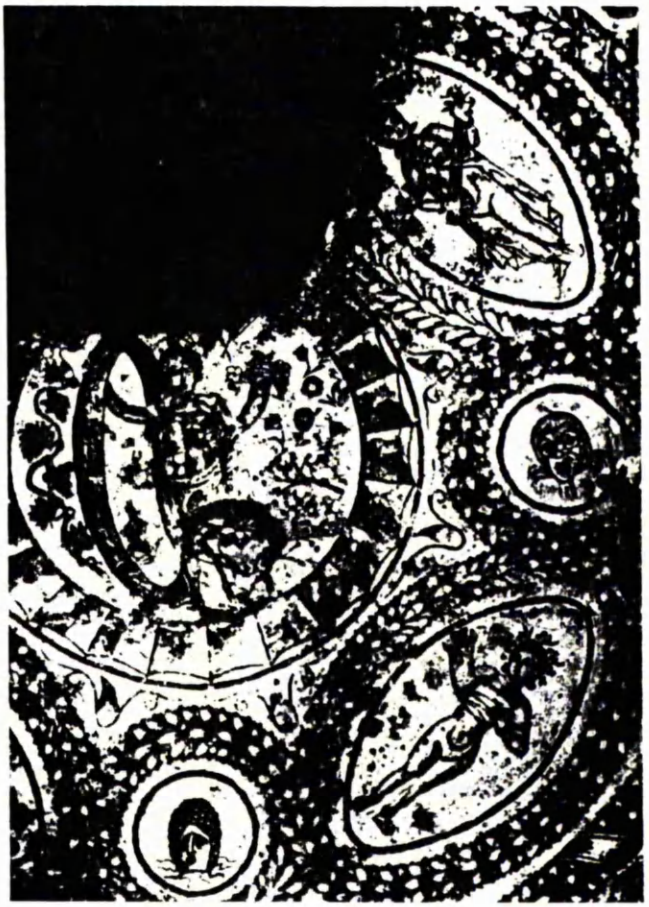

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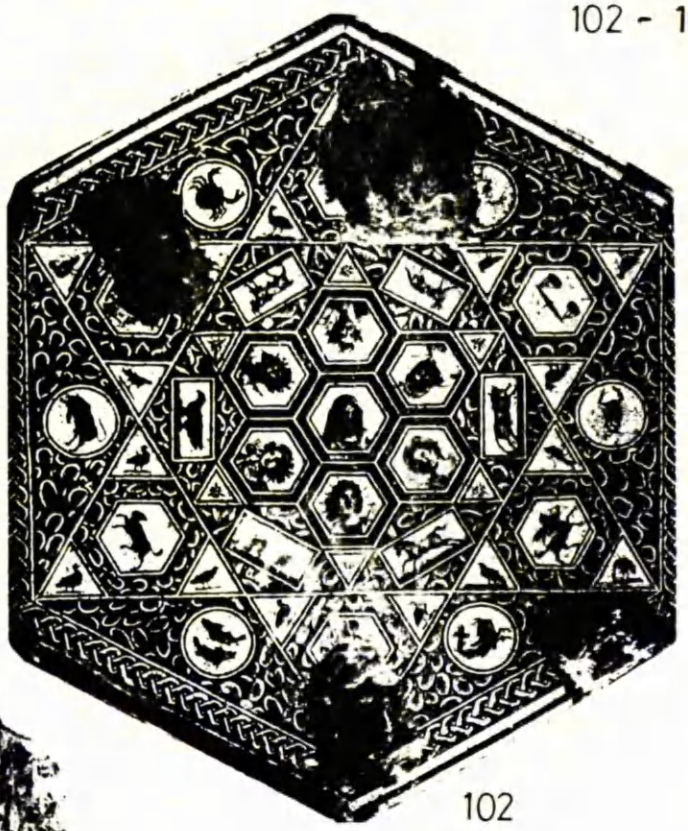

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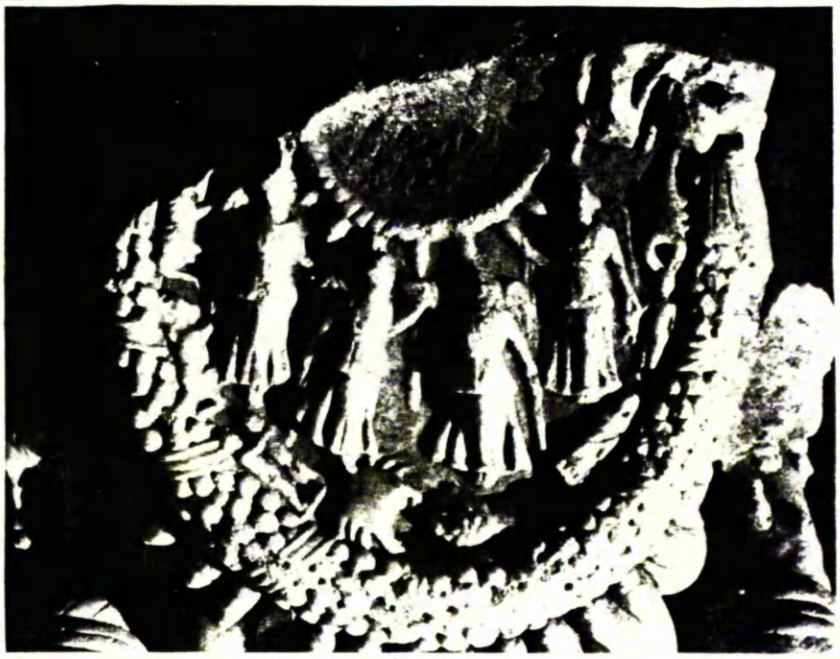

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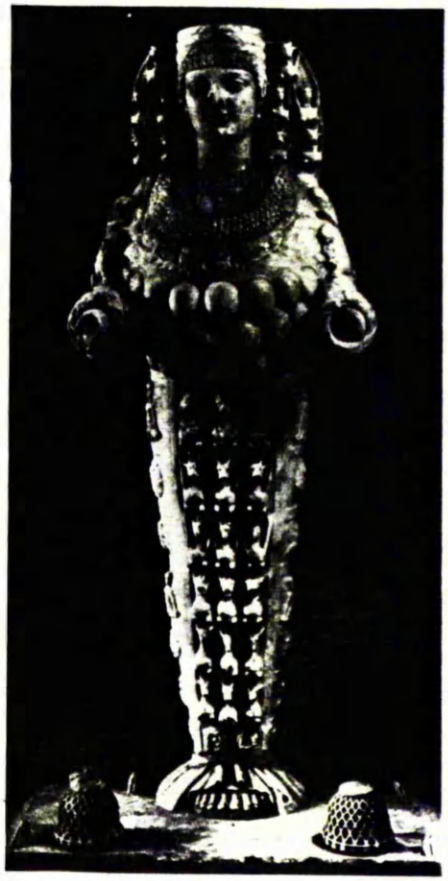

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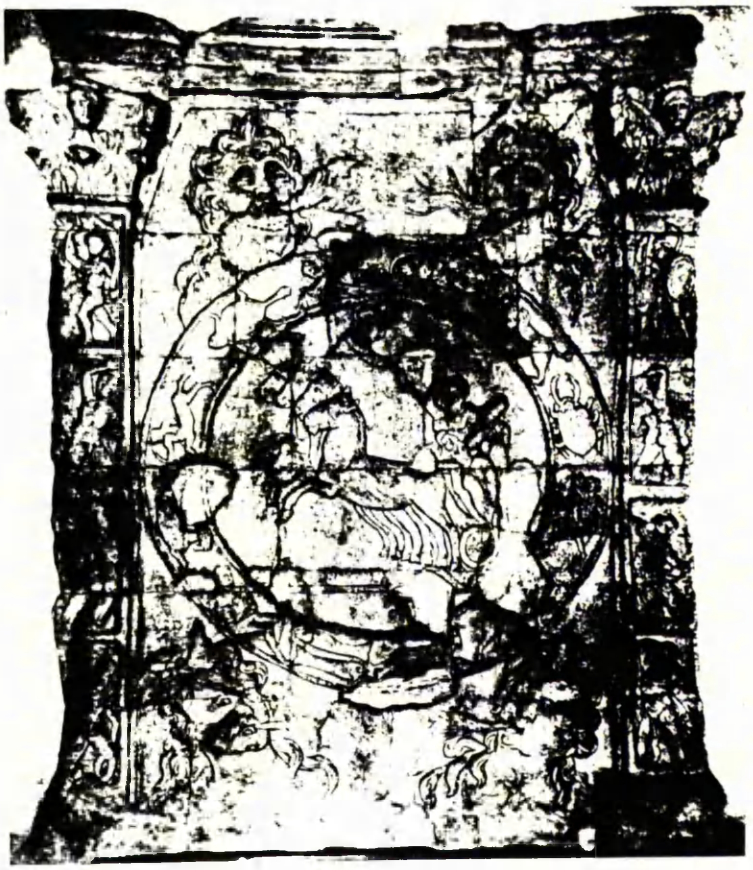

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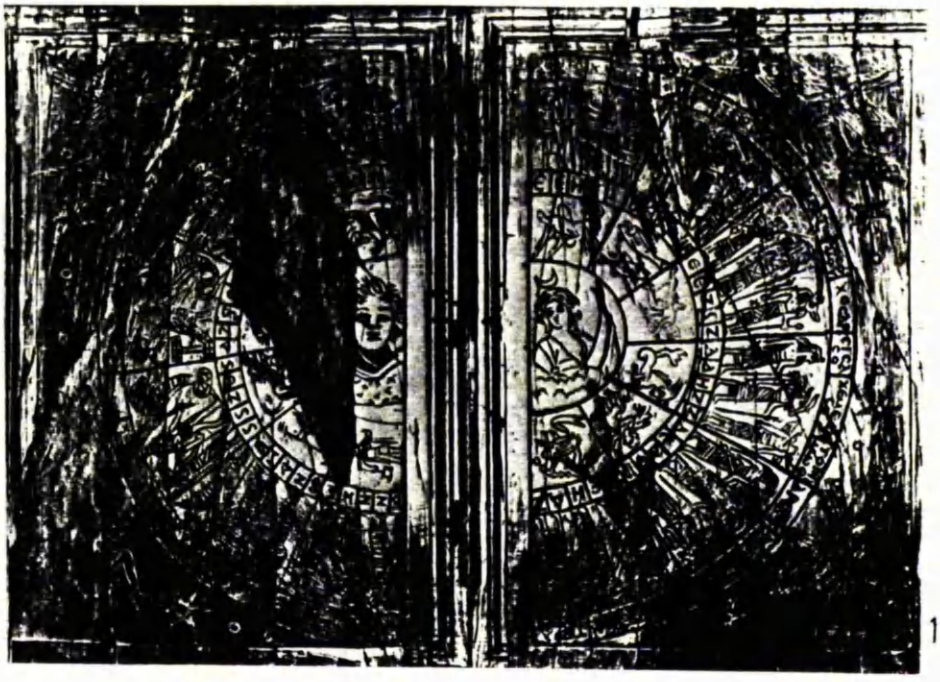

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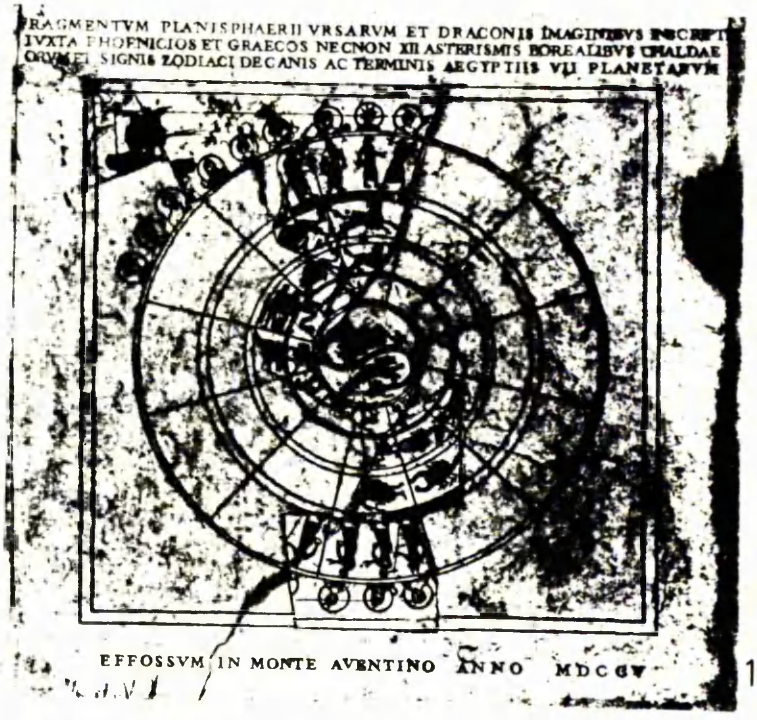
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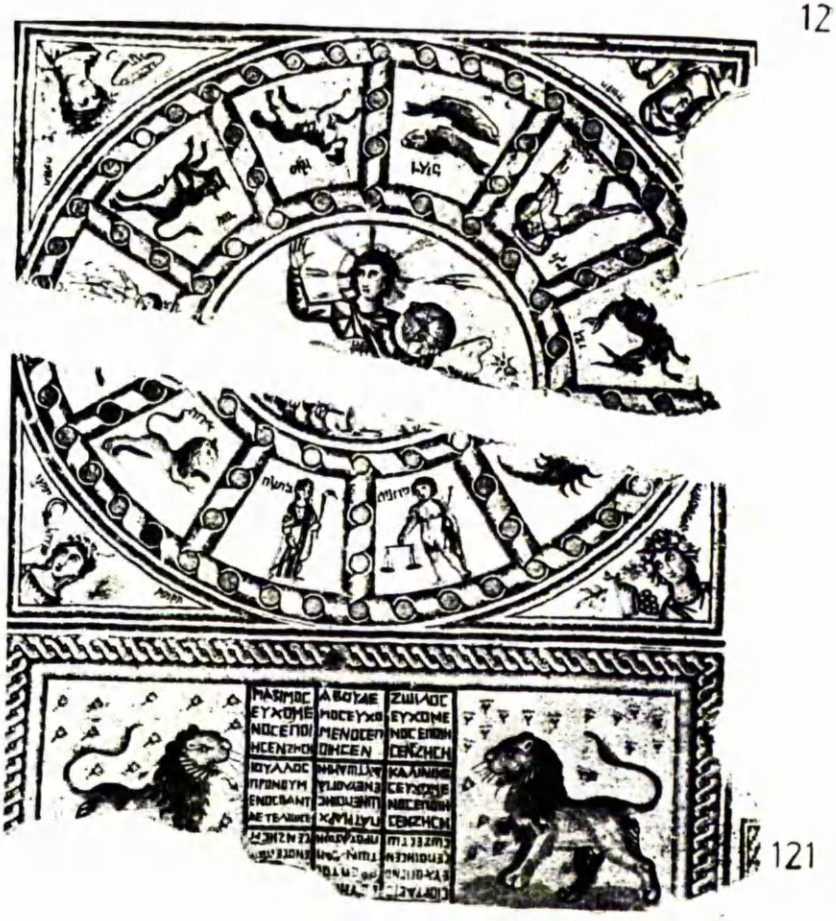

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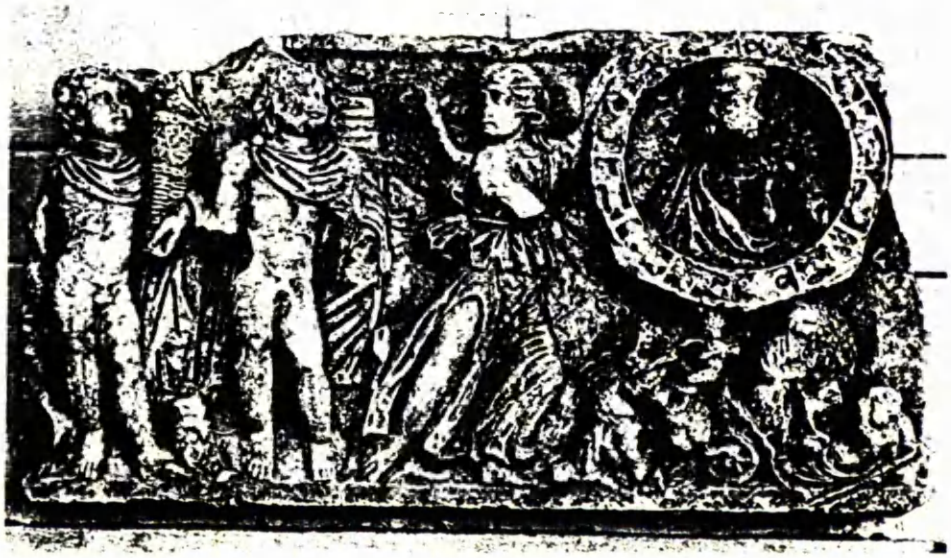

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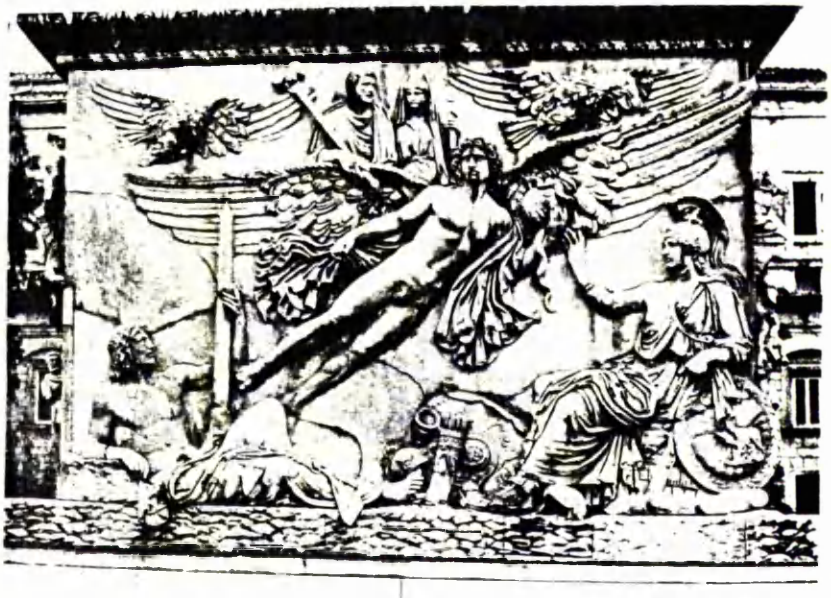

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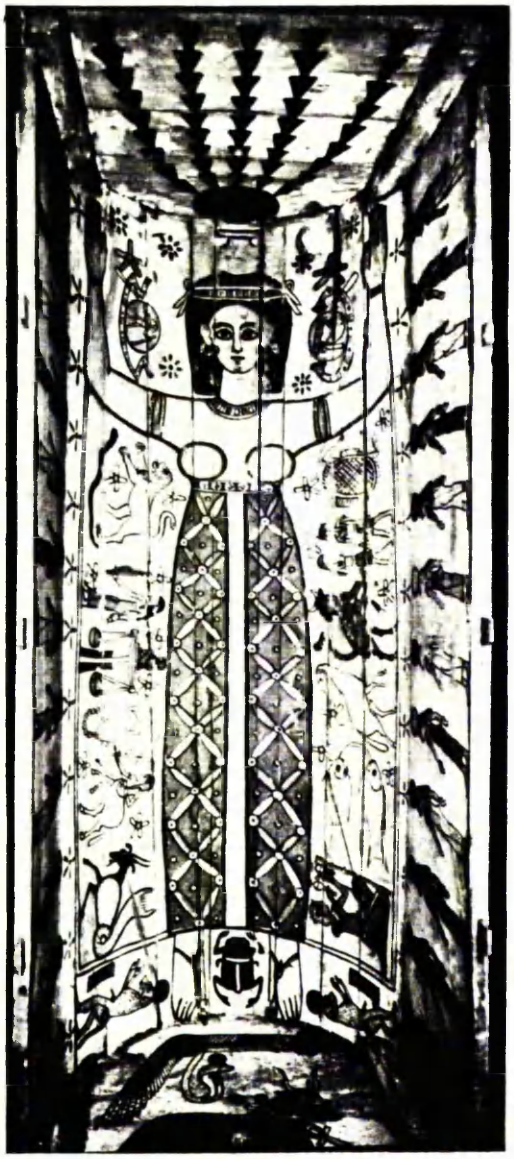

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